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ABSTRACT

The main report describes the procedures followed, difficulties encountered, and results obtained by a faculty and student summer task force attempting to design and produce course materials for an introductory college course in man-environment relations, and plan an undergraduate curriculum in environmental studies. Data on changes in participants attitudes are provided: few changes were noted. Additional documents appended contain an essay on "Education as Environment;" materials for an introductory course, including instructors handbook, annotated bibliography, and a class schedule; a draft proposal for a four year program in environmental studies; a sample attitude questionnaire; and two statements, one by a freshman and the other by a faculty member, evaluating the summer program. [Not available in hardcopy due to marginal legibility of original document.] (AL)

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Final Report

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A Summer Task Group for Educational Innovation

John S. Steinhart
and
John D. DeLamater

Institute for Environmental Studies
University of Wisconsin
1225 West Dayton Street
Madison, Wisconsin 53706

January, 1971

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U. S. Department of
Health, Education, and Welfare
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a. John DeLamater
b. Barbara Olsen

Summary

A task group of eleven students and three faculty members undertook an intensive summer-long effort to work in an open and relatively unstructured way on the following four objectives:

a. To design an innovative introductory course in man-environment relations, including a selected, annotated bibliography and supporting materials.

b. Develop original educational materials, e.g. multi-media presentations. Suggest new courses and educational experiences.

c. Plan an undergraduate curriculum in environmental studies.

d. Evaluation of the "open task force" as a method for educational design and change, and as a learning experience for the members.

Tasks a and b can be accounted as accomplished (although task b is open-ended). Course materials are appended to this report. Media shows and new courses have been suggested and some implemented.

Task c, curriculum design, was not completed although considerable effort was expended on it. The curriculum proposal draft derived, in part at least, from the summer discussions is appended to this report. There is a discussion of the inability to complete the task in the body of the report.

Task d is supported here. The "open task group" is an intensely involving experience for the participants and produced considerable personal learning. Failure to evolve a structure and other difficulties slowed the completion of the above tasks. Attitudinal questionnaires as well as subjective measures of the summer experience are reported in this report.

The open, unstructured group offers real promise for innovation and change in education. This experiment cannot be counted an unqualified success, but should be tried over and over again in the opinion of the investigators.

FINAL REPORT ON PROJECT NO: 0-0797

A SUMMER TASK GROUP FOR EDUCATIONAL INNOVATION

Description of Group

The student members of the Task Force were recruited informally. The investigators and Mr. Holland contacted students who were known to be interested, and relevant groups such as E-Day committees. A series of informal discussions were held among the students without faculty from February through May 1970; at least forty students attended at least once, and twenty or more were present at many meetings. Thus, there was substantial self-selection occurring during this period, the bases of which are not clear. The final eleven were chosen by Mr. Holland, in consultation with the investigators; main criterion was our estimate of potential contributions to the Task Force, with secondary consideration to balancing the composition of the group in terms of representing all academic levels, both sexes, and a variety of fields of interest.

The first formal activity of the Task Force was a five day retreat outside of Madison. Much of this period was spent in sensitivity training sessions, whose form was on personal relationships rather than organizational development. A major initial problem was the age and status differences; most of the members agree that these sessions aided considerably in creating more equalitarian, open relationships.

The Task Force began to work the following week, June 23rd, and continued through September 15. Many members devoted more time than they were being paid for. Several persons devoted most of their time and energy to our activities, reflecting high motivation and involvement. There were generally daily meetings of the entire group o sub-groups, and often several meetings in one day. In addition, there was constant informal exchange among members. In general, all of our activities were greatly facilitated by the acquisition of a University-owned house, whose rooms served as project offices, library, one large meeting room and two smaller ones. This physical focus served as a social and task one as well.

The Task Force operated with three different forms of organization during the summer. During the three weeks following the retreat, the organization was essentially the entire group with sub-groups whose membership was based on interest; there was no overall leader, and decisions were made and tasks delegated by consensus of the entire group. This structure no doubt reflects the equalitarian spirit created by the sensitivity training. After about three weeks consensus began to break down. Several minor and at least one major conflict arose. In response to this perceived breakdown we adopted a

second structure, comprised of three task-oriented groups, to which persons were allocated on the basis of interest and amount of work to be done. Each group was clearly responsible for specific tasks during these periods, and there was also an elected "adjudicator" who monitored group performance and resolved disputes. This structure was employed for about four weeks. It was more efficient, but created dissatisfaction among some who felt that it undermined the cohesiveness of the group as a whole, and resulted in too impersonal relationships. The structure was accordingly changed again, and for the next four weeks consisted of relatively autonomous subgroups plus individual work. There was no group-chosen leader, though the investigators increasingly performed such functions. There were few meetings of the entire group, due to a sense that nothing would be accomplished by them. During the final two or three weeks work proceeded on specific tasks by individuals or groups of two or three who had become associated with the tasks through interest. Some members dropped out about September 1 in accordance with previous committments.

Tasks and Accomplishments

A. Article - "Education as Environment" (appendix 1)

Due to the diversity in educational backgrounds and experiences of members, it was evident from the beginning that the group needed to develop a common base of ideas about both education and the environment if it was to successfully complete its task. What appeared at the time to be an ideal stimulus was presented when Garrett DeBell asked the group to develop an article describing in general terms a sound environmental education. For the three weeks following the retreat, the entire group met almost daily for three to five hours discussing educational change and environmental education. The major theme which developed in these discussions became the basis for the article (see appendix 1). The article was initially drafted by three persons, extensively re-written by two others on the basis of group reactions, and the final revisions and editing were made by three additional members. Preparation of the article dominated the first three weeks of our work, and was completed under the first form of organization described above.

The major benefit of this activity was the common understandings which emerged from the extensive discussions. We gained valuable insights into different members' positions, as well as their abilities. Some believed that this article represented genuine agreement that would serve as the basis for our subsequent work. However, others did not accept the concepts embodied in it, though this did not become clear until later in the summer. Various members believed there were two negative consequences of preparing the article, that it created a false sense of consensus, and that the week spent specifically preparing it could have been better utilized, either in some

serious efforts to create a conceptual foundation or in beginning work on other tasks. Also, DeBell ultimately did not accept the article for publication, and it is likely that this rejection of the group's first major product, which came in mid-August, contributed to the general lack of group spirit and disorganization which occurred late in the summer (see below).

B. Course Plan

In the context of the original proposal, our most successful accomplishment was the development of an introductory course in environmental studies. This activity occupied much of one of the task group's time during July, and was essentially completed under the second form of organization discussed above, although work continued on aspects of the course well into September by small groups.

Members of the sub-group responsible for designing the course participated in all phases of the planning. In addition to developing the format of lectures plus discussion and lab sections, the subgroup assembled a substantial annotated bibliography (see appendix 2) to serve as a basis for reading assignments. Many books were read and annotated, often by more than one person. Considerable time was also spent reviewing films and selecting relevant ones. Finally a highly successful multi-media presentation was developed. These tasks were completed with relative harmony. Much more difficult were decisions about student evaluation; the sub-group was split on the issue of who should be involved in evaluation and to what extent. There was also substantial disagreement over questions of educational process - e.g., should students determine section activities, how important was it to communicate specific content, etc. The decisions on these matters which appear in the Instructor's Handbook (see appendix 2) represent agreement among the sub-group but in some cases were not acceptable to other members of the large group.

Thus, we were most successful in the more tangible aspects of planning the course - preparing bibliographies, reviewing films, developing format - than in less tangible and more philosophical ones such as the role of students vis-a-vis structor. The latter may be issues on which there are fundamental and unreconcilable differences between these particular students and faculty (although there was also disagreement in equal measure between students) or we may have failed to create an atmosphere in which agreement among diverse perspectives could be achieved. These issues of disagreement have arisen in the course itself this past term, no doubt partly because many Task Force members held staff positions in the course but perhaps also because of our failure to resolve them in designing it. The Task Group or subgroup approach speeded work and agreement, but did not produce (and may have inhibited) agreement among the whole group.

C. Curriculum Development

The Task Force was least successful in developing a curriculum for environmental education. Though this was the primary focus of group efforts for the last four weeks of the summer and of a task group for the last three weeks of July, this task was never completed. We began with a subgroup of ten in early July. This group held several lengthy sessions exchanging ideas, and then individual members wrote proposals for specific areas - e.g., evaluation, major and degree requirements, and course content. These notes were passed on to a second subgroup, with substantially different membership. The second group rejected most or all of the results of the first group, preferring to begin at a different place. This second group subdivided into two groups which undertook different aspects of curriculum design, and individuals who were given responsibility for working on specialized problems. Since the Task Force had moved into the third phase of organization, there was little coordination or external monitoring of these activities.

The results of this activity, at the end of August, were sets of notes dealing with particular aspects of curriculum, as well as the report of the first curriculum group. These varied tremendously in quality from those containing innovative ideas and detailed proposals to those whose brevity rendered them valueless. The primary difficulty was the lack of integration, and at times of compatibility, of the proposals in different areas.

Appendix 3 is a draft of a curriculum proposal prepared primarily by the investigators. It is now under consideration and revision by the curriculum committee of the Institute for Environmental Studies. Most of the ideas and subjects contained in it were topics of discussion by the summer group - sometimes quite lengthy discussions. The lack of a result and lack of agreement on prosposals may be related to the differences in attitude revealed by the attitude questionnaires (see below).

Members of the Task Force suggest several factors which contributed to our failure in this area. An initial problem became clear at the end of the summer; some members had been sceptical from the beginning about the possibility of developing a genuinely innovative curriculum, and were not committed to this goal. In addition, several indicate that our numerous discussions which focussed on implementing educational changes led to a profound sense of disillusionment, a sense that the realities make reform impossible. These realities are of two distinct kinds: the political realities at this University which limit what is possible, and the

realities of imperfect teachers, students and administrators. It appears that the latter especially created serious disillusionment in some members of the group, and their realization was in part due to the imperfect relationship in our group itself. A third factor was a sense that designing an undergraduate curriculum was too large a task, that it was too complex to be dealt with meaningfully.

Our failure in this area and the disillusionment which resulted for some members led to a general disorganization of the group, with some members withdrawing almost completely and others working only as individuals during the latter part of August. As noted above, the rejection of the article probably was also a contributing factor.

D. Personal Growth

Everyone in the Task Force agrees that a major accomplishment was the expanded awareness of self, others, and education and its problems which resulted from our work. Some believe this was by far our most important achievement. The open, informal relationships led to much greater awareness of others as individuals. Thus, the student members learned that "faculty are human too" and vice-versa. Several of the student members believe that they will be much more sympathetic to the complexities and difficulties of teaching. The faculty and graduate members believe they have a much greater awareness of an undergraduate's perspective. All gained insight into the nature of education and the problems involved, in part because the group spent a good deal of time asking questions which are usually ignored or assumed away. This increased awareness served as a catalyst for individual's ideas and feelings. Some are more committed to educational reform, and optimistic about the possibilities they believe they gained useful ideas for change from our work. Others are much more pessimistic, and view the educational situation, at least in large universities, as hopeless.

While it is clear that the summer increased everyone's understanding of the problems, of others as individuals, it was noted above that we were unable to reach agreement on some fundamental issues. Also, it is not clear to what extent group membership itself discounts for the increased optimism or pessimism of individuals at the end of the summer, or whether the summer's activity simply reenforced latent feelings which would have catalyzed in other contexts if not in this one. The extent of change observed in the questionnaire results suggest that both mechanisms were contributing.

Finally, several members feel that they experienced considerable personal growth during the summer, as a result of their relationships with other group members. They believe that their growth is unequally attributable to their experiences as members of the Task Force.

SIGNIFICANT FINDINGS

THE ATTITUDINAL QUESTIONNAIRES

The attitudinal questionnaire (Appendix 4) was administered three times: at the beginning of the summer, middle of the summer, and at the end. We have examined the results of this questionnaire to determine the degree of agreement or disagreement and the changes which occurred over the course of the summer. The questionnaire contained 75 questions including a number with sub-parts. These questions divide into three distinct groups. The first section attempted to ascertain some attitudes about the environment and its problems, the second section examined attitudes toward life styles, and the third section examined attitudes about education and educational change. It is most convenient to discuss the results of these sections separately.

The Environment. The most notable result about the attitudes toward the environment is that there was little change in the course of the summer in individual attitudes about the environment. After eliminating some questions for which the results appeared unreliable there were significant changes in attitude by two or more members of the group for only three questions of the forty-three asked. We suppose this results from the focus of the summer group on education and its problems rather than detailed discussion of environmental problems.

The positions held by members of the group exhibited more disagreement than agreement. About ten questions produced substantial agreement although not necessarily of the same degree of intensity and about twenty questions produced substantial disagreement. The questions for which agreement was found fit into one of two characterizations: either the issue in the question was one having received wide publicity in the press (for example, preventing the SST, legalization of abortion, banning of non-returnable bottles, etc.) or the question raised an issue for which one would expect relative unanimity from a group of middle class and upper middle class college students and faculty (for example, the creation of bicycle lanes in city streets, an historical perspective is important for environmental problems, birth control assistance should be provided, etc.)

Those issues which more subtly underlie our environmental problems such as the question of whether economic growth is inimical to environmental quality produced more division of opinion including uncertainty on the part of some respondents. In general, questions involving regulation by the government of individuals were rejected by the majority of the group,

but regulation of business or governmental bodies was supported. Through most of the questionnaires, particularly of the young respondents, there seems to be a thread of distrust and cynicism about our traditional governmental processes.

Life Styles. Sixteen questions (including sub-questions) were asked of about life style attitudes. These questions were asked in such a way that it is difficult to distinguish between the respondents' personal habits and their tolerance of life styles in others. It was necessary to do this because the respondents would otherwise have been placed in the position of personally admitting to or endorsing illegal action. The result which emerges is an almost equal division between agreement and disagreement. The group mostly favored or were willing to approve in others cohabitation by unmarried persons, extended families with or without sexual exchange, group marriage, women's liberation, homosexual liberation, and generally endorsed communal living.

They were divided over questions of cohabitation by married persons (not married to each other), usage of alcohol, marijuana, tobacco, LSD, and the actual ability of the majority of the younger generation to live up to the currently popular popularized ideals of the "new culture". Again, ideas changed but little over the summer. The only noticeable change was that a larger proportion endorsed communal living an community ideas or supported them more strongly. This no doubt results from the intense involvement in the summer group. In a correlation with age, the younger respondents endorsed the tenets of the counter culture, frequently including the use of drugs, although strongly rejecting alcohol and tobacco. Older respondents were more variable and tended to be somewhat tolerant of a wide variety of life styles. Noticeably the younger respondents, despite their endorsement of new life styles in the "counter-culture" sense occupied rigid positions with strong approval and strong disapproval predominating.

Education. Here the initial lack of agreement among the group was most noticeable of all. Of the twenty-five questions, nineteen were the subjects of consistent disagreement, taking disagreement to occur when two or more members of the group hold strong positions in opposition to others in the group. Six questions produced agreement by midsummer at the latest. By comparison, the life style questionnaires could be accounted as agreement among any group of fourteen individuals. The life style attitudes are more obvious in day to day social contact, and we suppose that the reasonable agreement about life styles may have encouraged members to assume agreement on educational attitudes where such agreement did not exist.

There were extensive changes in attitude over the summer. It is difficult to generalize about these changes because persons changed opinions in opposite directions during the course of the summer. An example of this kind stated that innovations in education are unlikely to come from faculty (item 59). Three members disagreed consistently, two expressed mild agreement consistently, and two remained uncertain. During the summer three changed from agree to disagree and four changed from disagree to agree. In all changes of significance were noted for 17 of the 25 questions (two or more members changed positions by at least two units on the attitudinal scale).

DATA COLLECTION

THE ATTITUDINAL SURVEY

As one of the tasks in the original proposal, we set out to evaluate the Task Force as a method for curriculum design and as a learning experience for the members. To execute this task we collected individual statements from the members of their goals and aims at the beginning of the summer (just prior to the T group) at the middle of the summer (approximately July 20), and at the end of the summer (approximately September 1). We held several sessions with all or nearly all of the group present in which our progress, opinions, and conclusions about the task and the methods of doing them were discussed at length. These subjective statements together with some of our opinions about them are the source of the material used to write the main body of the report. In addition, several members of the group, including the principal investigator, have appended personal statements as of this date (January 1971) which reflect longer consideration of the intense involvement of the summer and the continued function of the group in their association about the new elementary course on the environment.

A set of attitudinal questionnaires were made up and administered during the course of the summer at the dates given above. A sample of this questionnaire is appended as an appendix. As stated on the cover sheet of the questionnaire, no examination was made of the questionnaire until all summers' work was completed. We had planned to put the results on punch cards and perform extensive computer analysis of the results. For various reasons this has proved to be impossible and is discussed in section three above. The questionnaires exhibited a number of shortcomings and should not be used in their present form. The principal shortcomings in the questionnaire are these:

1. The questionnaire is too long. Many found the task of filling out the questionnaires sufficiently onerous that their attitude may have been changed by their antagonistic feelings about the questionnaire.

2. A number of the questions, perhaps as many as 15, admit of several interpretations, sufficiently vague that the results of these questions are quite useless in a simple attitudinal scale.

3. Some of the respondents felt that the questionnaire portion about the environment at times required specific technical knowledge and therefore they felt uncomfortable answering. Although the authors of the questionnaire attempted to avoid such technical requirements some question is raised about the results of these parts of the questionnaire, if the respondents did feel there were technical questions beyond their comprehension. On the whole we were satisfied with the questionnaire as the first attempt, but would shorten and revise it for subsequent usage.

Recommendations

The failure of the Task Force to more successfully complete its task appears to be attributable to problems in two areas. Any subsequent similar effort may find helpful a brief description of the problems and some recommendations for alleviating them.

As the summer progressed, it became clear that there was a fundamental lack of agreement among members in two areas. This was confirmed by the questionnaires (not examined until after the summer). One area was that of the Task Force goals. Though all members read our original proposal prior to joining our group, they varied in the extent to which they accepted the goals stated there as the primary ones. This was especially serious, since others simply assumed that all members were committed to these as the primary goals. Alternative interpretation shared by some members is that there was agreement on these goals, but fundamental differences about the means by which these would be achieved. This lack of agreement was no doubt partly due to the diversity of members which we consciously sought to obtain; however, in retrospect it is also clear that we simply did not adequately clarify our understanding in these areas at the beginning. Thus, throughout the summer we had disagreements over the priority of specific goals, their feasibility, and the means to be employed. Our use of these different forms of organization reflects this disagreement over how to proceed.

The other area of disagreement was over the "boundary conditions" or behavioral rules necessary for participation in the group. Members had very different views of, for example, the importance of punctuality for meetings, responsibility for follow-through on assigned tasks, the priority to be given commitments to the Task Force versus outside responsibilities. There were continuing hostilities over these issues, with some members being extremely upset or frustrated when others behaved differently from what they expected; typically, those who violated such expectations had no feelings of having acted inappropriately. Thus, much more explicit agreement is necessary about the group's goals and members' responsibilities. There are three ways in which this might be facilitated.

1. The initial selection of members should be based explicitly on their acceptance of established goals. Hopefully this would still allow for the selection of people from diverse backgrounds, though if necessary one might prefer a more homogeneous group if it is essential to selecting a group which agrees on these issues.

2. The group could be smaller. Several members felt that fourteen was too large, that we worked most effectively in a group of six to eight. A future Task Force should probably be smaller, with a maximum of ten; this should facilitate agreement, by reducing the number of positions and personalities involved.

3. The group should discuss in detail goals and behavioral rules at the beginning. This might occur in a sensitivity or other intensive group experience. We mistakenly assumed agreement on these issues, when in fact they were problematical.

The second problem area was that of internal organization. We never developed a stable organizational structure which was acceptable to all members. Our main problem was an inability to work effectively while maintaining harmony and closeness among members. While our lack of agreement on fundamental issues such as goals and means, no doubt contributed to our inability to resolve organizational issues, we believe the latter is somewhat independent of the former.

All members agree that one of the strengths of the Task Force was the absence of roles and status distinctions between members, which facilitated open, honest interchange of ideas. This openness was essential to the growth which some members view as our major accomplishment. It was achieved partly as a result of explicitly directing the sensitivity group toward breaking down these distinctions. However, having removed external bases of organization such as academic status, age, and sex in order to achieve equalitarian relations, we developed no alternative basis of organization. We attempted to rely on personal interest and "natural leadership", but this was ineffective. As it became clear over the summer that we had not spontaneously developed an organization, the investigators responded by taking increasingly directive roles, which further alienated some members.

There are two recommendations we would make to similar groups:

1. While an early intensive experience is essential to effective personal relationships, it should also focus on organizational problems, and techniques of working together. We are told by sensitivity trainers that both foci are possible, given enough time.

2. There should be continuing evaluation of the effectiveness of the group as it operates. Again, we tended to assume that we would not have organizational problems, due to the close relationships between members. In fact, our experience suggests that the former may result from the latter.

Some members feel that an additional element in our difficulties was a lack of adequate time. They believe that curriculum development requires more than ten weeks, and that provision should have been made to continue the Task Force at least through the following semester. They recommend that provision be made for continuing work via provision of funds as well as academic credit for participants during the semester. Other members feel that we had ample time, and simply failed to use it effectively, due to the problems discussed above.

INSTITUTE FOR ENVIRONMENTAL STUDIES

UNIVERSITY OF WISCONSIN

The following questionnaire has been prepared jointly by several Institute staff members. We believe that under certain circumstances, it is highly desirable to determine people's attitudes toward several issues with which the Institute is concerned. Specifically, the questions below deal with three substantive issues: 1) educational innovation, 2) environmental problems, and 3) life-styles. In addition, a section at the end of the questionnaire asks for some demographic information about each respondent.

We would like you to be as honest and frank in responding to these questions as you can. The information obtained will be most valuable to all if you respond in terms of how you genuinely feel about each issue <u>at this time</u>. Some one person will be selected to analyse the individual questionnaires. No one else will have access to them. It is unlikely that he will be able to identify the person who completes each one. All reports of the data will deal only with aggregate, summary aspects. So there is no public audience about which you need be concerned in answering these questions.

Thank you very much for your cooperation.

I. ATTITUDES TOWARD THE ENVIRONMENTAL CRISIS

1. What elements would you include in a definition of the environmental crisis?

Ia. ATTITUDES ABOUT THE AMERICAN SYSTEM OF GOVERNMENT AND ECONOMY

Note: If you find a statement completely confusing mark it with an X.

(PLACE A CIRCLE AROUND YOUR RESPONSE)

2. The cost of pollution abatement should be paid by the polluter, be he an individual or a company.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

3. The cost of pollution abatement should be paid by the citizens of this country.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

4. Environmental problems are the result of present American societal goals and values, so that solution of environmental problems require a change in the goals and values of society in general.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

5. The American system of government works effectively when dealing with environmental crises.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

6. Better response to our environmental problems could be obtained by considerable decentralization of government power.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

7. Instead of the "melting pot" American idea, we should move toward self governing communities distinguished by their different cultures or life styles.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

8. Democrats will solve environmental problems more quickly than Republicans.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

9. Some environmental degradation is an inevitable side effect of any highly industrialized society.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

10. Democratic socialism (e.g. Sweden, Yugoslavia, or Cuba) provides the best control for industrial pollution.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

11. Solution of our environmental problems will require an end to <u>growth</u> in the production of durable goods.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

12. A rising standard of living for poor people in America can be achieved even if society cuts back economic growth.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

13. America has an obligation to provide all the food it can for hungry nations.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

Ib. ATTITUDES ABOUT THE CRISIS

14. An environmental studies institute certainly should concern itself with resource management, pollution, abatement and "pure" ecology. It should also concern itself with social issues such as consumption, life style, poverty, urban design, political systems and family structure.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

15. An often quoted Pogo statement about the environment is "We have met the enemy and they are us". Do you agree with it?

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

16. The problem is not that we will all die from environmental degradation--the problem is that perhaps we can adjust and adapt to the degraded conditions.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

17. Many, or perhaps most, of our environmental difficulties are implicit in the attitudes toward nature fostered by Judeo-Christian view of man and nature.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

18. Ownership of property does not give the owner the right to maim the wild plants and animals which live in, on, or over it.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

19. It is important to understand the historical and philosophical roots of our environmental crisis.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

20. Land and wildlife preservation is equally as important as pollution abatement.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

21. The upper middle class (and the rich) together with society's leaders have embraced environmental issues to avoid facing the issues of racial justice, the war, and other urban crises.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

22. Blacks should place a higher priority on environmental problems than on problems they currently note as more important.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

23. There is a conservation generation gap.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

24. Real solutions to our environmental problems demand militancy.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

Ic ATTITUDES ABOUT SPECIFIC CRISES

25. There are several million acres of public lands in the United States (arid lands, forests, parks, wilderness areas, recreational area,etc.). Commercial concerns interested in development of these lands should have minimal say in their management.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

26. National Parks should be primarily for recreation and not for preservation of native American natural communities.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

27. Elm trees should be allowed to die rather than be sprayed.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

28. Woodlot cutting and marsh draining in this county should be prohibited.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

29. Additional arid lands should not be brought under irrigation.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

30. Off shore oil drilling should continue.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

31. Non-returnable bottles and aluminum cans should be banned.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

32. Large, punitive fines should be instituted for air polluters (both industries and car owners with faulty exhaust systems) after they have been given a warning.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

33. The SST should be built.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

34. Bicycle lanes should be provided on city streets.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

35. The unmodified internal combustion engine should be banned.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

Id ATTITUDES ABOUT POPULATION GROWTH

36. Modest population growth in the highly developed countries is more of an environmental problem than the spiraling population growth in poorer nations (Asia, Latin America etc.).

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

37. Families should be urged by educational advertising to limit themselves to two children.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

38. The United States tax structure should be designed to discriminate against those who have more than two children.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

39. The state should force families to limit themselves to two children.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

40. The state should provide clinical birth control assistance.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

41. Abortion should be legalized.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

42. The state should provide abortion centers.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

43. Blacks are inordinately hung up about the idea of decreasing population growth.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

II ATTITUDES ABOUT LIFE STYLE

44. In approval or disapproval of the several familial living arrangements listed below, disregard legal considerations.

a. Co-habitation by unmarried persons

Strongly Disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

b. Co-habitation by persons married but not to each other.

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

c. Extended family (several married couples), conventional sexual patterns

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

d. Extended family, free sexual interchange

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

e. Communal marriage (several persons, each "married" to each of the others)

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

Disregarding legal considerations indicate your personal approval or disapproval of the following practices by some elements of our society.

f. Frequent consumption of alcohol

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

g. Smoking "grass" (marijuana) frequently

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

h. Smoking tobacco regularly

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

i. Using psychedelic drugs (LSD, etc.) occasionally

Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

j. Using "speed" (benzedrine, dexidrine, and other stimulating drugs) regularly.

d Strongly disapprove	Disapprove	Neutral, undecided	Approve	Strongly approve

45. The majority of the citizens under 30 are prepared to embrace simpler life styles than their parents (including consuming less and having smaller real incomes).

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

46. I am willing to give up many of the conveniences of modern living if it results in wiser uses of our natural resources.

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

47. Communal or extended families are socially healthier and consume less than nuclear families (husband, wife, and children).

Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

48. I can think of acquaintances with whom I would like to live in some kind of cooperative community (though not necessarily in one living area with a total sharing of resources).

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

49. Fully liberating women is a positive benefit for our society.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

50. Homosexual liberation is a positive gain for our society.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

III EDUCATIONAL INNOVATION

The following questions deal with educational innovation, as a general issue. Three terms are used repeatedly; the terms and their definitions, as employed in this questionnaire, are:

1) curriculum: refers to a collection and/or sequence of experiences (classes, seminars, work-study, etc.) with a particular educational goal.

2) course content: the ideas, concepts, techniques which are communicated in a course.

3) course format: the means or pedagogical techniques employed to communicate the content, whether lectures, seminars, independent work, multi-media presentations, etc.

PLEASE USE THESE DEFINITIONS IN RESPONDING TO QUESTIONS WHICH EMPLOY THESE TERMS.

51. Curricula should be designed primarily to meet the needs of society in the subject area.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

52. Curricula should be designed primarily to meet the needs of the students who will be receiving the education.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

53. Curricula should generally be designed in terms of the characteristics of the field as an academic/professional specialty (or of the fields in the case of interdisciplinary curricula).

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

54. Curriculum planning should be primarily in the hands of the faculty.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

55. Curriculum planning should be primarily in the hands of the students.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

56. While students may contribute to curriculum planning, final authority over adopting and implementing curricula should be reserved for faculty.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

57. Joint work on curriculum planning, through cooperative efforts by students and faculty, can be productive.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

58. It is difficult for students and faculty to work together in educational planning, given the differences in age, experience and values which separate them.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

59. Innovative curricula, in terms of the type and sequencing of educational experiences, are most likely to come from students, since they are less committed to traditional methods (lectures, course sequences, etc.).

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

60. Innovative course formats, such as use of multi-media presentations, work-study programs, etc., are unlikely to come from faculty.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

61. Students are likely to be too idealistic in their approach to education, thus ignoring major realistic constraints on what can be done in a college or university.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

62. A desirable curriculum would be one in which a student essentially develops his own program, drawing on available courses and faculty.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

63. Students and faculty should work together on all mutual problems, including budget and resource allocation, faculty appointments, and course content and format.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

64. Students working closely with the instructor in a specific course can make that course a better learning experience for all involved.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

65. Faculty tend to be too involved in research, consulting and professional activities, and therefore devote too little time to education.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

66. Current educational practice in colleges and universities represents what is possible, given all the conflicting interests and pressures.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

67. Administrators are a primary obstacle to educational innovation, since they are primarily concerned about non-educational matters such as minimizing costs.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

68. Genuine educational innovation in the sense of increasing student involvement in their education is probably not possible in large universities.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

69. Students tend to be unfamiliar with the literature and suggestions of educational reformers.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

70. Faculty tend to be unfamiliar with the literature and suggestions of educational reformers.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

71. Students are unlikely to contribute new curricula or course formats which have not been already suggested by critics of current practice.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

72. In general, faculty and administrators have thought much more about educational problems than students and others realize.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

73. Genuine change in education, in the sense of establishing an open, intellectually critical community, is probably not possible in large universities.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

74. Educational change will not make any real difference; new groups will develop who will be just as unhappy with the new program.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

75. There is little point in changing curricula or courses, since the formal educational system has little impact on students; their "education" occurs mostly outside the formal system.

Strongly Agree | Agree | Slightly Agree | Neutral | Slightly Disagree | Disagree | Strongly Disagree

IV BACKGROUND INFORMATION

1. Identification code. Father's middle name _____

   Mother's middle name _____

2. Age:

3. Sex: MALE_____ FEMALE_____

4. Education:

   a. Number of full-time semesters/quarters (indicate which) you have completed at undergraduate level: _____

   b. Number of full-time semesters/quarters (indicate which) you have completed at graduate level: _____ _____

   c. Degrees held: BA/BS:_____ MA/MS:_____

      Ph.D. _____ Other (indicate)_____

5. Subject area(s), major fields with which you identify yourself (or in which you are earning degrees):

   _____

6. How would you characterize your career orientation; i.e., what are you doing or do you want to do with your education? You might find phrases such as basic research, applied research, active change agent, teaching, or "gadfly on the Establishment's rump" appropriate.

   _____

   _____

7. How would you characterize your general political views?

___ Conservative, Republican	___ Conservative, Democrat
___ Moderate, Republican	___ Moderate, Democrat
___ Liberal, Republican	___ Liberal, Democrat
___ Moderate, Independent	___ Leftist -

___ Other (indicate_ _____

8. Please, briefly describe your previous experiences with educational planning/innovation, particularly experience with joint faculty-student or student-faculty-administration groups.

In addition to these standard items, we are interested in learning something about peoples' life-style preferences. Thus, we would like you to carefully consider and answer the three following questions:

9. We would like to learn something about your musical tastes. For each of the following types of music, please indicate if you like or dislike it by circling your response.

a. Chamber music

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

b. Orchestral classics

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

c. Light Classics

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

d. Musicals

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

e. Country/Western (pure)

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

f. Folk Music (pure)

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

g. Folk rock

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

h. Hard/Acid Rock

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

i. Electronic music

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

10. We are also interested in your literary preferences. We have constructed a number of sets of authors; each set contains three names of literary figures whose works we consider similar in some important way. Please a) go through the entire list and cross out the names of all those whose work is unfamiliar to you (you need not have read a man's work to be familiar with it). Then b) indicate the extent to which you like or dislike the works of the man/men whose name(s) remain in each set.

a. Tom Wolfe, Kurt Vonnegut, Ken Kesey

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

b. Herman Hesse, Tolkein, Lewis Carroll

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

c. J.K. Gilbraith, Kenneth Boulding, Desmond Morris

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

d. Pinter, Le Roi Jones, Andy Warhol

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

e. Carl Oglesby, Abbie Hoffman, Marcuse

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

f. John Updike, Saul Bellow, Philip Roth

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

g. Camus, Sartre

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

h. Shakespeare, Ibsen, Shaw

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

i. Dickens, Hardy, Forster

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

j. O'Hara, Robbins

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

k. Steinbeck, Sinclair Lewis, Hemingway

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

11. We would like to sample your preferences for outdoor activities. Please indicate how much you like or dislike the following activities.

a. Sailing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

b. Backpacking

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

c. Gardening

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

d. Canoeing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

e. Birdwatching

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

f. Flowerstudy

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

g. Rock climbing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

h. Hunting

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

i. Fishing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

j. Snowmobiling

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

k. Skiing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

l. Cross country skiing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

m. Bicycling

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

n. Water skiing

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

o. Motorcycle touring

Like very much	Like somewhat	Neutral	Dislike somewhat	Dislike very much

AN UNDERGRADUATE CURRICULUM IN ENVIRONMENTAL STUDIES

Why Do We Need A New Curriculum?

Seven years ago in 1963 when Stewart Udall then Secretary of the Interior wrote The Quiet Crisis President John F. Kennedy was able to write in the introduction that "A once beautiful nation is in danger of turning into an 'ugly' America ... The crisis may be quiet, but it is urgent". The rate of change and the events since that time only seven years ago have been rapid and turbulent in quite unexpected ways. Today we find John W. Gardner saying "As a nation we have never faced more ominous problems - the threat of nuclear war, irreversible destruction of the environment, a world population crisis, urban decay, civil disorder. I don't need to tell you about the problems, you have seen them growing steadily, in scope and intensity. And you have seen too our apparently increasing inability to gain command of our problems. I find everywhere, among all segments of the populous, something approaching a sense of helplessness. They hardly know where to begin."

"Every informed American has heard about the problems so often he is bored by them. But under the boredom, he is worried. I'm worried too, more than I can tell you. I fear for our country. I'm not just worried about the size and scope of the problems. I'm worried about the hatred, the growing cynicism, the loss of confidence."

The strident voices and intemperate accusasions of the political extremes, the young, the blacks and even the Vice-President of the United States show us almost daily the truth of Gardner's words. We have seen, in the past year, these deep divisions result in mindless violence, heartbreaking tragedy and calls for repression of dissent. The violence is real and fears of repression and

loss of freedom are also real. Consider the following statement "The very existence of government files on how people exercise first amendment rights, how they think, speak, assemble and act in lawful pursuits, is a form of official psychological coercion to keep silent and refrain from acting". These are not the words of a leftist radical but the words of Sam J. Ervin, Jr. an aging conservative senator from North Carolina on the floor of the U.S. Senate. The majority of Americans, who are neither strident nor violent - nor even, for that matter, articulate in their expression - feel themselves hurtling into a future they do not comprehend, beset by present problems they do not fully understand, and driven by a change process that no longer seems responsive to human control.

As we have begun to understand the nature of our present environmental plight, so too have we begun to understand the lack of ready solutions. The symptoms are easy enough to see - pollution, depletion of resources, destruction of human dignity, and the runaway growth of technology - but meaningful solutions must deal with the deep divisions in our society as well as control measures for symptoms. We shall need science and technology, turned to the services of man, to assist us out of our present difficulties but we shall need far more, for the plain fact is that technology will not solve our present problems. Garrett Hardin and John Platt have shown very clearly that many of our present environmental problems are of a kind that cannot have technological solutions. Western society has grown used to the expectation that experts will solve our problems and that specialists pressed into service in sufficient numbers can mitigate any difficulty, yet we know some of our present plight results from this belief. Alvin Weinberg, director of the Oak Ridge National Laboratories, point out that "if it is true that only the specialist knows what he is talking about it is also true that only the generalist knows why he should talk at all". Rene Dubos warns further that "a society that blindly accepts the decisions of experts is a sick society".

By worldwide standards, our society is a resonably well-educated society. Most of our leaders and a significant fraction of the population have pursued programs through college, yet such people seem no more able to solve our present problems than the uneducated among us. Our educational programs must therefore shoulder a fraction of the blame for our present difficulties. The universities as well as the school systems have failed in one of the tasks society must ask of them. These are not new sentiments. Consider the following calls for change:

> "The university in point of fact does not operate in a totally laissez-faire environment. It is strongly influenced by public needs that are present-oriented, and the present-oriented functions have most frequently been directed to the preservation of the status quo even if the future may have been put in jeopardy, the idea that the purpose of higher education is the 'search for truth' coupled with 'freedom of inquiry' has become institutionalized. The result has been greater and greater specialization and the concentration on certain problems without regard to the needs of society."
>
> Faculty Document 279,
> University of Wisconsin Faculty

America's institutions of higher learning must do more than change their curricula or allow student and faculty to create their own new programs. They must do more than change their committee structures or their organizational arrangements. They must do more than make piecemeal concessions to change. They must do more than merely defend themselves.

They must take the initiative, take it in such a way that there is no more doubt as to what they intend to achieve and how all the components of the institution would be involved in achieving it. They must call together their keenest minds and their most humane souls to sit and probe and question and plan and discard and re-plan until a new concept of a university emerges, one that will fit today's needs and will have its major thrust toward tomorrow's.

Samuel Gould, Chancellor
State University of New York

"We need in the university community a focused, systematic, responsible, even aggressive concern for the manner in which society is evolving - a concern for its values, for the problems it faces, and for the strategies appropriate to clarify those values and solve those problems. We need men who are seeking new solutions and helping us on toward those solutions. We need designers of the future. We need to be told how to build a better society and how to get from here to there."

John W. Gardner, former secretary of
Health, Education and Welfare

"It is at this point - at the last millisecond before midnight - that humanism and the social scientist are being invited to help salvage our society ... they must now assume a major responsibility for averting the impending doom. There is only one way to do so, and that is to reassert the primacy of a man centered culture which subordinates technology to the human condition. That is what the new environmental policy is really all about - a renaissance of man in the decade of the 70's."

James Allen, Assistant Secretary
Commissioner of Education

"We need new knowledge, new perceptions, new attitudes - and these must extend to all levels of government and throughout the private sector as well: to industry; to the professions; to each individual in his job and in his home. We must seek nothing less than a basic reform in the way our society looks at problems and makes decisions ... it is also vital that our entire society develops a new understanding and a new awareness of man's relation to his environment - what might be called 'environmental literacy'. This will require the development and teaching of environmental concepts at every point in the educational process."

Richard Nixon,
President of the United States

"What is happening, in the great universities as well as the less great, is that the entire educational process is becoming fixed - hung up as the phrase now goes - on its vocational end result. The job out there, the profession or the industry dictates the 'training' (their word, not mine) in the graduate schools, and the graduate schools dictate the preparation in the colleges, the whole system congeals from the top down like a pond freezing. The danger is that, society may congeal with it, for nothing is more certain in history of our kind than the fact that frozen societies perish."

"There is no quarrel between the humanities and the sciences, there is only a need, common to both of them, to put the idea of man back where it once stood, at the focus of our lives; to make the end of education the preparation of men to be men, and so to restore mankind -- and above all to this nation of mankind -- the concept of humanity with which humanity can live."

Archibald MacLeish
Poet

It would be possible to continue at great length the reasoned but urgent calls from many leaders of our society for a prompt response in our educational system to the environmental problems and to the social problems in which our environmental problems are embedded. It is in this spirit that this curriculum is offered. No claim is made that this particular curriculum or these particular ideas will cure the long standing ills of society nor that it will promptly solve society's urgent short rangeand long range problems. Nevertheless, we have seen a youthful generation - our own children - loose faith in our educational system in significant numbers and many of the adult leaders in society feel threatened by societal events over which they feel they have no control.

We seem to have lost sight of the basic meaning of reason in experimentation in the search for truth. We have attempted here to design a curriculum leaving open the options of students to become specialists and experts or to become simply knowledgeable men concerned with the nature of the human condition, knowledge and concern which they can then carry with them into whatever business or profession they happen to practice in our society. We do not conclude that we know the future or can, with certainty, predict the results. We can only say that the plan is a carefully thought out one, which seems to offer some prospect of helping in a small way the process toward a liveable future world. In the true spirit of experimentation we ask students and faculty to dedicate themselves to education, understanding and the highest aspirations of

the human spirit. We shall learn in this joint experiment what is helpful and what is not. We shall expect to modify, change, and experiment again in the belief that diversity of approach offers the best rational approach to understanding and solution of our present and future problems.

The Aims Of The Curriculum

We hope this curriculum will offer a broad spectrum of students an opportunity to pursue their real concerns for the way in which society is evolving. We hope that it will offer understanding of both the short and long range problems of our human environment and an understanding of the physical, biological, and social world in which we finally understand that we are one animal species among many striving for continued existence on a planet of finite extent. We hope to concern ourselves with the nature of human condition and the aspirations of each man for a life of dignity, meaning and satisfaction. We hope to provide opportunities for students to acquire a breadth of understanding as well as, if they should so desire, an adequate preparation for continued specialized professional training. We hope that the central question will remain part of our continuing concern - the question "How is it we are here"? We must be prepared to consider what parts of our present condition are unprecedented in the history of humankind and what parts are only the present day equivalents of questions which have plagued mankind for thousands of years. Most of all we hope that students can achieve the understanding that their education is a never ending process to be pursued by themselves without teachers throughout their lives in an effort to gain not only knowledge but wisdom.

We offer only modest changes from existing programs because we cannot predict what radical departures might be most successful. We offer students some opportunity to pursue those questions which trouble them most for these questions are the most meaningful to any man. We require some study of ideas found successful in the past.

There are undeniable risks. The case was well put by Dennis Chitty, professor of zoology at the University of British Columbia, "By trying to study too many subjects one may end up a mere amatuer at each. The classical solution to this problem is to train a man in the liberal arts; to train him so that he is capable of distinguishing good from bad arguments; so that he can put forward a good argument himself; so that he can write well and speak well; so that he can, in fact, apply a trained mind to all sorts of unforseeable circumstances. Our difficulty is to know whether this approach to education, which worked farily well during the 19th century, is adequate for modern times. My own feeling is that it might be no worse and might be a good deal better than any purely technical course."

What this curriculum might be thought of, then, is the liberal arts with the new point of view. Instead of focusing on the great ideas of human kind this approach might be described as a consideration of the human environment, its history, its physical and biological structure, and its meaning for human hopes. Such a change in point of view may mean that questions of day to day concern in people's ordinary lives may receive considerable attention as well as the great abstractions of philosophy and science. Franz Kafka at one time remarked that he could not understand why people deprecated ordinary life so much since it was the only life they had. We agree with Kafka and concluded that a point of view starting from individual concern with the human condition and especially his own are a proper starting point - but no more than a starting point - for an education.

Who Will Be Served By This Curriculum?

Given our ideas of free choice in one's education, this curriculum should serve any and all who find its contents interesting. Nevertheless, the curriculum was designed with certain special groups of students in mind. For example, the curriculum can easily

be used by pre-professional students (pre-law, pre-medicine, and other pre-professional students). It is hard to imagine a better preparation for graduate professional training than a broad understanding of environmental problems and the societal problems that accompany them. Certainly the future community leaders represented by students in our professional schools could provide the pervasive grass roots leadership for real citizen participation in present political action and planning for the future.

Many college curricula are prepared as if the student entering the university was reasonably sure of what his educational and/or career goals are. In real life this is seldom the case. In response to persistent questions from their parents and others many young people devise a pat answer to the question "what are you going to do"? The fact of the matter is, that the majority of young people are not at all certain what they wish to do, what course of education they wish to follow or what career they wish to pursue after college. We have attempted to recognize this mass of undecided students in the design of this curriculum and prepared it in such a way that the maximum number of options remain open against future changes of mind.

It is especially difficult for the undecided student in a large university. When asked to declare a major and thus become associated with a department it becomes increasingly difficult to sample other disciplines or other colleges within the university except through the medium of large impersonal introductory courses. We hope such sampling can be done within this program in ways that are still part of the coherent look at environmental problems.

The curriculum is, of course, designed in such a way that the student with determination to pursue a course of study leading to a career of solving environmental problems can be accomodated. In the examples presented we hope to show a broad undergraduate education dealing with environmental problems can include specific professional preparation in the sciences or social sciences leading

to specialist study at the graduate level. It is easy, in this curriculum, to design options suitable for various professional directions.

We are concerned in this program more with the everage student than with the exceptionally gifted one. Most students at a large public university are, almost by definition, average students. This is as it should be, for the meaning of government popularly elected by the people is an informed citizenry for whom education is as much a neccessity as is professional training for a specialist. A large faction of those attending the university do not in fact learn their career at the university. Many, if not the majority, become business men, civil servants, employees of large corporations, etc.. Many of these students now specialize in history or english or many of the areas in humanities and social sciences especially. It seems to us that pursuit of a curriculum like this one is at least as good preparation for being an educated member of society as are the other non-professional preparations. In the past it has been especially hard to interest the average students continuing their own education at their own pace after they leave the university. We have no assurance that this curriculum will solve this problem, but have attempted to aim in that direction. Certainly at the present rate of change in society anyone who cannot or will not pursue his own education after college will soon find himself out of date.

Finally, we hope that this curriculum will offer some opportunity to the adult members of society who wish to return, full time or part time, to study the nature of environmental problems as a degree candidate or a special student. The enormous effort expended by citizens through volunteer organizations and citizens groups devoted to environmental problems in particular suggest that considerable enthusiasm for such learning exists if it can be done in a way that is not hopelessly demanding of time or personally demeaning to a man or woman perhaps of middle age.

We hope then, that this curriculum will serve the undecided student, the pre-professional student, the average student, and the returning adults as well as the extremely gifted dedicated student of the environment. In the specific examples given below, we have attempted to illustrate how this curriculum can be made use of as a pre-professional degree - whether for law, medicine, science or humanities - as a terminal degree for an educated citizen wishing to work in business or civil service, and as a program which leaves the option open for the student to transfer into a more specialized discipline during his undergraduate career should he wish to do so.

Undergraduate Curriculum in Environmental Studies:

Distribution Requirements

As indicated above, the intent of this program is to develop a broad familiarity with environmental problems in undergraduate students. Concretely, this means making the student aware of the distributions from a wide variety of study areas and disciplines to the understanding and solutions of problems involving man's relationship to the environment. In order to ensure breadth of coverage, each student will be strongly encouraged to take courses in a variety of relevant fields. In general, we have followed the distribution requirements of the College of Letters and Sciences as will be seen from the specific requirement below. We believe, however, that it would inadvisable to set down rigid requirements for all students. On the one hand such requirements have the effect of stiffling interest and curiosity and on the other students arriving at the university increasingly have had direct experience with environmental problems and/or education in various aspects of these problems. What follows, then, is a set of requirements which each student would be encouraged to take and/or to demonstrate proficiency in. Substitutions which fulfill the intent of the specific requirements would be routinely allowed. The Institute for Environmental Studies will undoubtedly develop some special courses which would satisfy some of the requirements listed below, so that the student will not be entirely dependent upon the resources of other units in the university in fulfilling these requirements. However, where appropriate courses now exist, the Institute would not duplicate them. A major future function of the Curriculum Committee will be the decisions relating to whether or not existing courses fulfill these requirements and what substitutions and exceptions will be regularly permitted.

General Degree Requirements

I. Basic Skills

We recommend the same criteria of proficiency which the Letters and Science College now requires, in English Composition and Mathematics. The specific requirements are:

A. English Composition: demonstration of competence via standardized examination; or completion of introductory courses in english composition.

B. Intermediate Mathematics: Three years high school mathematics (algebra, geometry, and trigonometry - trigonometry optional); or two years high school mathematics (algebra and geometry) and one semester college algebra (Math. 101); or, two years high school mathematics (algebra and geometry) and one semester college logic (Phil 211).

We recommend that the third basic skill requirement, in foreign language be dropped. L&S now requires 14 credits in one foreign language; or 16 credits in two languages when 8 credits of high school latin and eight credits of any other language are offered. Foreign language skills are not essential nor of primary relevance in environmental studies; in addition, some major universities (e.g., Univ. of Michigan) no longer require language proficiency at the undergraduate level.

II. Communication/Empirical Analysis Skills

The second area of L&S distribution requirements is "Foreign Language or Mathematics;" the requirement is for substantial competence in either foreign language or mathematics, in addition to the basic requirement. This requirement is presumably designed to familiarize the student in detail with systems of analysis or communication other than english.

In view of the focus of the Institute, we recommend this be broadened, to encompass other types of communicative or analytic skills. We recommend the following options:

A. Foreign Language: 24 credits in one foreign language; or 28 credits in two (or equivalent proficiencies), including language credits in I above.

B. Mathematics: one year of college-level calculus (completion of Math. 212, 222, 232, or 252, or equivalent).

C. Data Collection and Analysis: at least nine credits in courses in experimental methods, field and naturalistic observation, and/or statistics and statistical analysis.

D. Theory and Operation of Computers: at least nine credits in theory, components, programming and use of computers, including systems theoretical orientations.

E. Communication via media: at least nine credits in the nature and use of mass communications media.

The specific selection of courses for options C,D, and E above will be determined by a combination of the student's interests, and a determination of what skills are relevant to his other activities in the Institute. Selection will be made in consultation with his faculty advisor.

An important task for the Curriculum Committee, or sub-committee thereof, will be the determination of what courses now offered would be allowed to fulfill the above requirements, and in what areas courses need to be developed specifically for IES students.

III. Distribution Requirements

L&S now requires 12 credits each in the humanities, the social sciences and the natural sciences. Obviously, a distribution of

courses across these areas is highly desirable. However, we believe that the heterogeneity of student interests, backgrounds and academic standing which will be built into the core seminars will contribute considerably to the development of such breadth. Therefore, we recommend that six credits minimum be taken in each of the three areas by IES degree students. L&S now provides the student with an extensive list of courses in each of the areas which can be used to satisfy the requirements. We recommend:

1. This list should be scrutinized by the Curriculum Committee or a sub-committee thereof, for courses which are particularly relevant to environmental studies; the fulfillment of this option would be limited to such courses in each of the three areas.

2. Relevant courses in other Colleges and Schools should be identified and added to the list of eligible courses.

IV. Core Seminars

Each student will be required to enroll in one of several core seminars during his last three years as an undergraduate. The core seminars act as a central focus for the program and provide interaction with students pursuing many options on the environment and at several levels in their education. (See subsequent description of core seminars for fuller explanation). Each core seminar is year-long and may be taken for either four or five credits.

V. Major Requirements

Two options are available for a major in environmental studies:

1. A student may offer as evidence of concentration and competence in some particular area fulfillment of the major

undergraduate requirements of departments in any School or College of the University.

Or

2. Completion of thirty credits in a coherent area of which no more than ten credits may be core seminar work. Such coherent areas may cut broadly across departmental lines and incorporate subject material from several schools or colleges. Coherent area programs which have already been completed will be kept on record as examples of typical programs completed by previous undergraduates. Over the course of time such coherent area programs may become quite numerous. New coherent area programs may be proposed and approved at any time permitting the flexibility that the broad area of environmental studies requires. In the following material several examples of coherent area programs are offered.

   Concentration courses submitted for the major may also be used to satisfy distribution requirements.

VI. Total Credits

At least 120 credits are required for the Bachelor of Arts-Sciences in environmental studies.

This comprises our recommendations for degree requirements. Throughout, our emphasis is and should continue to be on the intent of these options, rather than their specific content at any given time. In addition, any options or requirements should be oriented toward the particular interests of IES students, and toward creating environmental generalists who are capable of substantial contributions to the practical problems in this area. At the same time, for those who are interested, we will encourage adequate preparation for graduate work in particular disciplines.

Core Seminar:

The central, unifying thread within the overall undergraduate curriculum of IES is to be the Core Seminar. Each student will be in such a seminar three of his four years. We see each Freshman IES student participating in an introductory course similar to the existing IES 101 or an introductory ecology course though we recommend this be a five credit course to allow for thorough coverage of the necessary introductory material. The Core Seminar, for Sophomores, Juniors and Seniors, is to consist of 20-25 students and 2-4 staff members and/or graduate students. We are inclined to recommend that the Core Seminar account for approximately one-third of the student's normal undergraduate load and that the Seminar participants be a mixed group of students, i.e., students from both different concentrations and years. The same students and staff would meet at such a seminar for a minimum of one academic year. Since each Core Seminar will consist of students from a variety of concentrations it is felt that, as well as studying defined content materials, the Seminar could easily and profitably: a) concentrate on a specific problem focus, b) utilize established modular courses in connection with the Seminar's specific areas of interest, and, c) accommodate student initiated projects and modules.

The purpose of utilizing such a Core Seminar as a major element of the curriculum are: 1). to avoid too narrow a focus and to push each student to constantly examine the interconnections among ecosystems; 2). to avoid simply duplicating existing disciplinary studies; and, 3). to create a structure which will encourage and stimulate integration of the widely diverse content and approaches necessary to a study of environmental problems.

MODULAR COURSE OFFERINGS IN THE NEW CURRICULUM

We suggest that most of the new course offerings beyond the elementary level be offered as modular courses . By that we mean courses which are offered in units smaller than the semester and which normally would not occupy a full semester's time. Of the many sets of mechanics which are possible for such an idea we would recommend the following be considered:

(1) Course offerings which occupy a time period of 2 weeks, 4 weeks or 8 weeks for which credit be assigned on the basis of work required and total hours involved. For example, a 4 week module meeting 4 hours a week would be worth 1 credit hour.

(2) Modules might have as their focus particular subject matter, of course, but some of them might focus on matters of technique or simply be lecture and discussion sequences on a particular issue.

(3) Groups of modules might be identified as a course as Professor Gerald Marwell has done in his Sociology course such that students might take and complete satisfactorily 3 of 6 modules for a C, 4 of 6 modules for a B, and 5 of 6 modules for an A. Students would be permitted to repeat modules in the process and thus the slow learner or the students otherwise having difficulty might be enabled to acquire the material (which is the overall aim of education) at his own pace.

There are a number of reasons why modular course offerings seem especially appropriate to the Institute for Environmental Studies.

1. Problem focused courses adapt especially well to modules depending on as they do on a number of disciplines or viewpoints in approaching a particular real-life problem. Efforts to team teach courses by intermingling professors or simply providing a parade of visiting experts have not proved very satisfactory nor very popular with students. Modular course offerings on the other hand simplify the management of such courses by permitting modules to be added or withdrawn as the problem changes over time.
2. As implied in (1.) above these of permitting course offerings to evolve may be one of the strongest points in favor of modular course offerings. Too often in the university the difficulty of creating a new course or of substantially changing an old one permit courses to persist after they've outlived their usefullness. Modules could be added or withdrawn as necessary to cope with new knowledge, new developments or new situations in the real-life problem being adrassed.
3. Modular course offerings need not however be part of a semester long grouping. Knowledge or understanding certainly does not always come in semester size chunks and new or exploratory courses as well as many tppics of interest lend themselves much better to short presentations. Because of the enormous breathe of environmental studies modules of less than semester lengths relating to various problems or disciplines could prove to be extremely useful in expanding

the aquaintance with varicus fields and problems that a student may acquire in a given length of time.

4. There are particular kinds of study which lend themselves much more to intensive work than to extensive work. I have offered a course in the past in instrumental techniques which met once a week for 2 hours. This course would have been enhanced enormously if it could have met 8 hours a week for 4 weeks rather than 2 hours a week for 16 weeks. Continuity in many kinds of work is extremely difficult to maintain if there are long gaps between class sessions. We attempt to balance the work of students and to maintain the myth that studying is done uniformly and equally over the semester even though we know it not to be that true either in the case of our students or onrselves. The availability of course modules permit the student to work hard on topical material for some periods of time and at other times to have an easier schedule permitting reetruction, outside reading or merely relaxation. In any case it is my conviction that intensive learning at times is more useful than extensive learning.

5. Fianlly, learning most often takes place when the student is ready and anxious to acquire a particular kind of knowledge or understanding. If course modules are available the student may seek out those modules for which he has particular need at the moment and omit those which seem at the moment to be irrelevant. It may be that the student will later find a need for the modules omitted but when he perceives the need for these modules is the time he is likely to learn something about the subject matter

that they address. The situation is all too familiar of the student who takes a course and acquires perhaps 10 or 15 % of the course material in which he is extraordinarily interested and merely attempts to survive the remaining part of the course.

Such course offerings are being tried a number of places (for example, in the Michigan Psychology Department). It is not necessarily true that all courses can be offered in modular fashion or that all modules need be part of courses. Salary matters may provide some beaurocratic difficulties but these has been dealt with at least for the case of Prof. Marwell's experiment. It is probable that the credit toward faculty salary should be granted in accord with the credit attached to the particular module.

Office of Education Report

Statement by Dr. John DeLamater

I am basically pleased with the actions of the Summer Task Force. I believe that the insight into the University, problem of teaching and learning, and educational reform gained by the participants was invaluable. I learned a great deal, even though I have read broadly and written about educational reform. I think all of us have more realistic views of both the problems and the possibilities and I continue to view the potentials with guarded optimism.

I think the most severe personal problem which I experienced last summer was that of competing commitments. While I worked at least forty hours per week at Task Force activities, I could not be as involved in informal relationships with members as I felt was desirable due to other activities. Of primary importance was the fact that I am married, and my wife was not involved in the group. Other members either did not have intense relationships independent of the group, or had them with other group members. As a result, I found it impossible to participate in informal evening activities, and some week-end ones, and felt that I had less personal and more formal relationships with many members. I also was involved in planning: courses for the coming year, and my strong commitment to teaching made it impossible for me to slight this. Such conflicts may be common to those who become involved in efforts such as ours, since it is concern for education which leads to involvement both in attempts at reform and extensive preparation for teaching.

EDUCATION AS ENVIRONMENT

Summer Curriculum Community[1]

INSTITUTE FOR ENVIRONMENTAL STUDIES

THE UNIVERSITY OF WISCONSIN

[1] The summer curriculum community is attempting to design a curriculum for environmental studies. It is not a faculty-student committee, although it does include faculty and students among its members. This paper is the joint effort of 16 people, all of whom contributed to its writing. Alphabetically; we are:

Ken Bowling, John DeLamater, Robin Dennis, Nancy Field, Rich Holland, Marc Kaufman, Dusty Lewis, Rae Ann O'Brien, Barb Olson, Binda Reich, Judy Seidman, Bob Seltzer, Barb Shindell, Mike Sievers, John Steinhart, and Will Weber. Throughout this chapter "we" refers to this group directly; it is not used in its academic or editorial senses.

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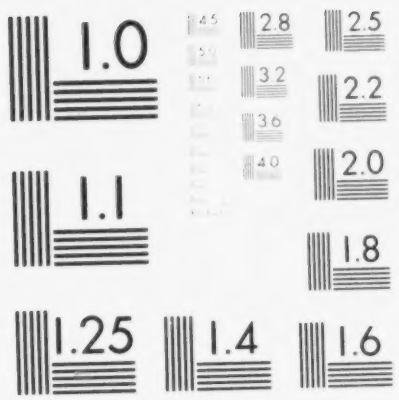

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963 A

I remember all those thousands of hours
that I spent in grade school watching the clock
waiting for recess or lunch or to go home.
Waiting: for anything but school
My teachers could easily have ridden with Jesse James
for all the time they stole from me.

Richard Brautigan

Released. I'm free. I've made it. After 16 or more years I'm finally through with my education. I'm a college graduate. I'm free...I'm frightened. I'm not prepared to do anything worthwile. Oh, I've learned how to manipulate the system all right...exams, grades, teachers and the like (I may even have learned a trade that will feed me), but I haven't learned to deal effectively with the overwhelming problems facing all of us. The Environmental Crisis. World Wide Poverty. Mass Starvation. Vietnams. Urban Bombs. And there are millions more in every age group who, like me, have never learned to understand or solve these problems. Most of us are not even taught to think about our actions as related to world problems - and it leaves us in shock to discover that our lives are part of the chaos around us. What a waste of potential.

Yet I could have been different. I'm a product (yes, a product, not a person) of my educational environment, and differences in that environment could have prepared me to deal with contemporary problems. We see ourselves as separate from the environment, using it as an unlimited resource for

a new man, who realizes his role in a larger ecological system, who realizes what he has done as a species in the past and who knows how to approach life as a part of a whole ecological system. This new man will only evolve through a new educational system which will permit man to learn of his own potential, to learn how to solve problems on an interdisciplinary scale, to permit man to perceive new life styles, and to let man realize that his education is a life long process, and not a function to terminate after twelve or sixteen or more years.

The choice which each of us must face is between two alternatives. We can choose to "fix the environment," i.e., continue our devotion to uncontrolled growth in production, technology and consumption to feed the life style which has produced the present crisis, merely putting more men and resources into reacting to the more dangerous forms of pollution which result. If this alternative is chosen, then the educational implication is simply the production of more technicians and specialists to deal with specific, here and now and limited crises. If this is your choice, then you will find the future frustrating, to say the least. For this strategy deals only with symptoms and not with basic causes. Opting for fixing the environment in this sense

We believe that the best choice is the other alternative, "living in the environment." If we are to solve environmental problems, and to have an environment in which both present and future generations care to live we must develop new means of relating to the physical or natural environment. The development of such means may in turn require changes in the man-made environment, technologies, forms of social organization and values. And to live in the environment in this sense requires a different education.

Regardless of the methods, techniques, or materials presently used, the simple and obvious fact is that the message that gets to the student is the only content of his eduction, whether that message was intended by the curriculum or not. If the student feels that his educational program has no meaning in terms of the questions arising in his everyday life, the messages sent to him will be of limited interest and large portions of what he is "taught" will never reach him at all. Too often this is the case.

The curriculum of education could (and sometimes does) contain important information about the environment. But this is only a small part of what is needed. More importantly, we make the fundamental but seldom stated observation that <u>education is an environment</u>. Young people from the ages of

educational environment determine one's attitudes toward the larger social and natural environment. The formation of these attitudes is largely independent of the formal content of the educational program.

We believe that the present educational system constitutes a poor environment for learning how to respond to environmental problems.

The medium used to get that message across is of ultimate importance. If told to sit in parallel rows for twelve years, without any interaction with any of the surrounding warm bodies how can we expect anything but the message of alienation, lack of concern for others, and competition to come across as the main message of the system. Education teaches us to manipulate things and people for our own ends, while genuine relationships require symbiosis and mutual exchange. School teaches us to

unquestioningly accept authority, rather than self-reliance. Colleges stress specialization and the value of expertise, while our problems have become too complex to be dealt with by narrowly-trained professionals. Finally, the educational system conveys the message that the questions which arise in everyday life are irrelevant and uninteresting, that it is the great abstractions of science or systematic and objective surveys of subject matter which are "really" important. And yet without constructive responses to those everyday problems - the environmental crisis, war, problems of poverty and racial minorities, and campus disruptions - there may be no future. Many of us worry a lot about the future.

A very different environment for education is needed if we are to respond creatively and constructively to the environmental problems we face. Environmental education not only must be about the total environment, it also must embody the characteristics of the environment. We use the term environment in its broadest sense, including not only the natural environment of plants and animals, but also the social environment of social organization, technologies and values. Our conception of environment, whether the total one we inhabit, the"natural environment", or the environment in a particular university, is that of a system whose elements are dynamically interrelated to each other as an open system.

AN EDUCATION COMMUNITY

We believe that a different environment for education can be constructed by drawing on our knowledge of ecological communities. We define an environment which incorporates ecological criteria as an education community or simply a community.

In our concept we view an educational environment as a community. In this community all of the inhabitants live as quite distinct individuals, yet with a strong understanding of their interrelationships with the other members of the community. An interdependent relationship develops, a trust relationship develops, and all members of the community strive for personal and group growth.

In a pragmatic sense, this demands a dramatic deemphasis of departmental lines in our universities. It demands new priorities for funding, so that students and learning take precedent over research. Presently, departments vie for available cash, and individuals fight for research grants. Teaching is not rewarded in any way by the present system. If the U.S. Office of Education or State legislatures or trustees started issuing monies to support good teachers, our whole educational process would change

College and university environmental education programs should interact with the larger society of which it is part. Too frequently the educational system is viewed as an isolated

entity. Yet the environment as a whole is [illegible]
a campus resource for academic tinkering [illegible]
which is irrelevant to the academic world. [illegible]
government leaders need the ideas and the open inquiry the
university offers and students and faculty need involvement
with real world problems if these ideas and inquiry are to
have meaning. Thus, education communities must relate to the
larger environment of which they are a part. Man's natural
environment, his man made environment, and his political and
social environment can and must be used as educational tools.
During the 1969-70 academic year, the most powerful messages
transmitted came from the streets, and not from the classrooms.
To deny man's total environment as an education is to deny an
integral part of life to a living creature. The environment
of man is an education, and man should live it, be it, touch
it, and be touched by it.

Education communities should embody symbiosis and synergy; there should be mutually beneficial relationships between each member of the community. Our present educational system emphasizes one-way communication, from professor to students. To achieve such symbiotic relations will require the breaking down of the barriers to open exchange, both physical and social. A synergistic community requires that each person contribute ideas, experiences, and wisdom. Learning how to interact in the community should employ present knowledge of small group processes. Small group techniques help

the members of a community learn the strengths of their peers, facilitate interaction, and serve to break down the stone like barriers separating students from teachers, teachers from students, and students from one another. The small group experience should aid all members of the community in responding honestly to the ideas of others, in ways of seeing the thoughts of others, and in the means of personal growth as a result of meaningful personal relationships. Student-faculty roles will shrivel up and die, for this new environment of growth should include all members and all ages. Teachers must learn from students as well.

Community is diversity. It is diversity in biological communities which provides the maximum resources for adaption to change. In the same way, an education community requires diversity of knowledge, experience, age and values in the search for answers to new questions. Our curriculum community for example, includes persons with backgrounds in history, psychology, urban planning, ecology, social work, art, mass communications, physics, botany, geology, political science, sociology, and landscape architecture.

While many natural communities are diverse, they are also integrated. Education now tends to be a series of isolated inputs, each from a narrow and specialized perspective; integration by the student is almost impossible due to both differences in perspective and sheer information overload. Even interdisciplinary efforts suffer from the com-

munication gap between narrowly-trained professionals. In an education community, integration will initially come, as it did for us, from concern about a common problem. But our experience, especially in approaching the writing of this chapter, indicates that a common focus is not enough. The members must develop a shared perspective, a common language and a set of assumptions about many things.

Each ecosystem is characterized by an equilibrium and feedback mechanisms which maintain the stability of the community. If massive changes occur, such as the clear-cutting of forested hillside, destruction of the community results, and some new equilibrium must be established. Environmental education must focus on the nature and variety of the feedback mechanisms which operate in both natural and man-made systems. Past consideration of the environment, especially by business and political decision-makers, has too often focused on structure and outcomes rather than process. Our failure to take account of these processes has allowed us to falsely assume that we are in complete control of the environment, and that we can exploit it without regard for consequences. In an education community, we can study community dynamics first hand. The effects of past actions can be seen as the community evolves, and we can assess the extent to which our actions were consonant with the internal mechanisms.

PROCESS AS MESSAGE

Environmental education must be more concerned with the learning process than with curricular content. To emphasize processes rather than factual content will require many changes in the present structure of higher education.

In a specific sense, students should be able to create their own programs and education environments which can help to deal with questions that they find meaningful to themselves in their ordinary lives and their expectations for their future lives. Only then will the quality and meaning of the message the student takes away increase. This concept rejects external pressures such as required courses, exams, required papers, et. al., because this outside intervention has destroyed self motivation, curiosity, and involvement in the past.

We are thinking specifically of interdisciplinary study, constructed by the student to suit his own needs, with the ultimate goal of learning how to solve problems with the use of many disciplines. The course of study is not geared toward a professional degree. Students will leave the education community for the larger environment when they feel able to deal with problems in their complexity and when they feel able to make sound decisions based upon a wide range of contributing factors. The interdisciplinary study will apply to both undergraduate and graduate education. The attempt to understand any problem in order to work with it effectively

will inevitably lead to consideration of a wide range of material. For example, in considering the pollution problems of a watershed, a student would consider at least the following: hydrological factors such as a water table and river volume; biological relationships to area plant and animal life; the source of pollution, whether industrial, agricultural or municipal; political factors such as relevant governmental units and potential or existing pressure groups; social factors such as public attitudes and uses; relationships between pollution source and daily behavior; aesthetic and health considerations; as well as economic costs and benefits.

Reliance on the self-direction and motivation of the student in turn requires confidence, both confidence in oneself and trust by others. Many people in our present educational system appear to basically distrust students, and this distrust is returned.

By approaching education as a means of learning how to learn, a dynamic process develops in which education becomes a continuous and adaptive process. Learning need not halt after high school or college but must go on in order for man to remain a viable force in his environment. By planting the seeds of self education, and letting the seeds grow while a member of the education community, individuals will accept education as a life style. These individuals will ask the necessary questions.

GOING HOME

We have indicated why we believe our present system of education is incapable of preparing people to respond effectively to the environmental crisis. We have argued that a very different environment - an education community - is necessary for this purpose. A number of concrete changes in our present system will be necessary in order to develop these viable communities.

In establishing such communities now, one must give special attention to the type of persons needed. While we have stressed diversity and breadth, our own experience indicates that genuine openness to, and enthusiasm for the community concept is more important than a person's field, amount of experience, or academic status. We <u>can</u> learn together much of the necessary content even though no one in the group possesses it initially. But we can work together only if each member has the ability and opportunity to express his ideas openly, to extend himself to understand the ideas of others, to respond positively to constructive criticism, and a strong commitment to the community and its goals.

Once the community is formed, there must be radical departures from the present academic reward structure. For the students, as we have stressed, we must do away with the external forces which now attempt to direct his performance - grades, course requirements, degree requirements, and endless competition. Instead, we must permit his curiosity to suggest directions for his thinking, and provide personal experiences

relevant to his interests. We need "Require" only a commitment to his own education; beyond that, we rely on his own self-motivation and allow him to construct his own educational context and program. Evaluation will still occur, but constructively and in terms of his own goals and abilities, not in terms of uniform standards.

For the faculty, the primary and essential change is from rewarding research and professional activities to an emphasis on teaching in the sense of sharing ideas, values, and other personal resources with individual students. We must stop measuring a professor by the length of his bibliography, and start considering his ability to communicate, to stimulate the minds of others, and whether he allows his students to be self-directed. There are no easy quantitative measures of these abilities; and we recognize that different personalities require different styles of communication and stimulation. But this new emphasis is essential to the creation of a community. We are not suggesting that faculty cease to do research, but that such research be meshed with other activities of the community and be shared with students as a learning experience. In environmental education, the best research, as well as the best teaching, would be problem-centered, multi-disciplinary, and action oriented. This, in turn, requires changes in criteria for research grants. Instead of the almost exclusive concern for "basic" research, foundations, government agencies, and universities themselves must be willing to devote significant amounts of their resources to applied, educationally relevant

projects. At present this change of focus is beginning in the federal government, but the university faculties are not responding.

Summary of Changes

Our view of environmental education is thus a broad and general one. We have not presented here highly specific recommendations about curricula, such as disciplines to be included, amounts of each, length of training, types of experiences which all students should have, nor about courses and course sequences. In large part, such specifications are antithetical to our view of both education, and environment. We have stressed diversity, self-direction, trust, evolution and adaption for both the learner in the educational setting, and man in total environment. It should be clear that we believe education as presently structured, with its bureaucratic system stressing specialization, external direction, and competition cannot provide people with the intellectual and personal resources necessary for creative responses to environmental problems.

1. Environmental education must be characterized by:

a) symbiosis, synergy, and integration of diverse ideas and perspectives.

b) an "environmental niche" for <u>each</u> student, based on his active, self-directed involvement in that education;

c) a focus on environmental mechanisms, especially evolution;

d) learning how to learn rather than learning "facts".

2. Such an education must be available to all, not just high school or college students, since the environment is

the common property of all.

3. Massive resources must be invested to provide this education if we are to respond consciously and creatively to the environmental crisis.

4. A community is the form of organization best suited to provide such an education.

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INTRODUCTION

We do have environmental problems. Somewhere between the cataclysmic cries of the Jeremiahs and the soothing apologies of industrial spokesmen lies a series of interconnected and difficult symptoms. These problems leak into our everyday affairs and degrade the lives of every living organism. Our present difficulties are not the result of a diabolic plot, but of neglect, short-sightedness and inadequate understanding of ourselves and our world. No aspect of our world is entirely blameless, though some have done more damage than others. We have simply been doing many things wrong.

We start from the observation that previous educational efforts in conservation and ecology have permitted our present environmental difficulties to develop and persist. New experiments are needed. If we knew precisely what was needed, we would not keep it a secret. One things is clear: The same old methods and ideas in the Universities' treatment of environmental matters has been given a long try. It has failed. So we hope you will join in an experiment with us.

In late June, fourteen individuals representing every level of the University hierarchy, from full Professor to incoming Freshmen committed their summer to an experiment. The original hypothisis was that students and faculty could work together in designing an academic format, and more important, that both perspectives are essential to develop an educational experience which will provide optimal learning opportunities. Students as well as administrators are demanding "relevance", and participatory learning experiences for the people involved, which entail changing the existing view of educational methods and content as well.

We believe that by pooling the resources of the students and the faculty we could at least make some advances in the direction of providing a learning experience - an experience which could change the individuals involved.

We determined that a problem facing the effectiveness of our educational system was also basic to the environmental problems. This stems essentially from the passive role established for the individual by the increasing specialization of our society. A classroom is traditionally a setting formalized by a lecturing teacher and seated, passive, observing students.

The social environmental problems are more complex, but here again the citizen conceives of himself as detached from his natural environment, rather than a determining agent of its use or misuse.

"Forum on the Environment" will attempt to provide an alternative model, in which the students and teachers will be parts of a total community. Equal importance will be placed on the contributions of the individual student and on those of the instructor. The teachers will also be learners as will the student also be teacher. We have implemented within the course format, which will be discussed in the following sections, various mechanisms for establishing the desired open communication which in turn facilitates the development of a community.

Beyond establishing the symbiotic learning community where there is no place for a passive agent, we plan to structure the format so that the individuals will have the broadest possible experience with the natural environment as well as with problems threatening it. They will have the opportunity to question existing policy and conceive of preferable alternatives. They will experience aspects of the social organizations with which they will have to deal as determining members of an evolving culture and society. We hope all these ideals will work, but are prepared to accept some failures along with successes. Such is the result of any new attempt.

This handbook has been prepared to help explain the essential structural aspects of "Forum on the Environment", the objectives and motivations of the course. There are sections containing specific recommendations, which we believe will aid in achieving these objectives. However, we also recognize the individual rights of the instructors and encourage suggestions or expression of dissatisfaction with any of the recommendations.

If the experience, which we believe will be derived from the environment to be presented, is near what we hope and expect, it will be worth while for all those involved. It will also serve as a beginning in the process of developing a society which is capable of perceiving their environment and their relation to it. These individuals will have the privilege and responsibility of guiding the evolution of the environment. Education <u>is</u> an environment.

FORMAT OF IES-101/FORUM ON THE ENVIRONMENT

A. Lectures/non-lectures

Within a changing university system, we believe that a straight lecture format is no longer the best method for learning. While lectures can be valuable, we do not believe that they should be the primary focus of the course.

In IES-101, we have tentatively scheduled approximately fifteen lectures or non-lectures in the form of multi-media shows, films festivals, camping trips, debates and lectures throughout the semester. (See page 4 for the schedule.)

PURPOSE:

The purpose of these lectures is not to give the student information for which he will be held responsible on an exam. Instead, the purpose is to provide a common experience to all participants of IES-101 that can be used to facilitate the individual sections in building their "mini-communities", while exposing students and faculty to information, concepts, and opinions about environmental problems and solutions. It is expected that any experience in 101 will be critically evaluated by all those involved.

We have designed the lectures in order to:

1. Introduce the instructors in IES-101 to the students.
2. Introduce the participants of 101 to many of the environmental problems that face the world.
3. Illustrate the technical complexity of specific environmental problems.
4. Discuss political issues involved in environmental problems.
5. Analyze the political system in terms of how it affects environmental problems.
6. Look at the american culture and counter culture.
7. Provide a forum for students to express their opinions through student initiated lectures, and student projects.

Any student, group of students, or a section as a whole who wants to present a program, or has an idea for a program should consult with their instructor, Marc Kaufmann the general course assistant, or John Steinhart.

All of the lectures are in addition to what will be happening in the individual sections. The lectures or non-lectures are available to the sections, to be used in a manner that will best benefit each community.

LECTURES/NON-LECTURES

(Tentative schedule)

Week 1 Sept. 21 - Sept. 25
M multi-media
W section assignment adjustments

Week 2 Sept. 28 - Oct. 2
M or W Instructors-man-on-raft

Week 3 Oct. 5 - Oct. 9
M Film Festival (may be held Friday evening)

Oct. 10,11 Week-end camping trip - Wyalusing

Week 4 Oct. 12 - Oct. 16
open

Week 5 Oct. 19 - Oct. 23
Week 6 Oct. 26 - Oct. 30 John Steinhart, Santa Barbara/MWM

Week 7 Nov. 2 - Nov. 6
M Film Festival (may be held Friday evening)

Week 8 Nov. 9 - Nov. 13
Week 9 Nov. 16 - Nov. 21 Orie Loucks, DDT/ MWM

Week 10 Nov. 23 - Nov. 25
M Debate - Radical, Conservative, non-ecologists

THANKSGIVING VACATION - Nov. 26,27,28,29

Week 11 Nov. 30 - Dec. 4
W Multi-media and/or mime

Week 12 Dec. 7 - Dec. 11 Reid Bryson or James McCamy-,
Week 13 Dec. 14 - Dec. 18 Global Climate Modification/ MWM

CHRISTMAS VACATION - Dec. 20 - Jan. 3

Week 14 Jan. 4 - Jan. 8
W Projects

Week 15 Jan. 11 - Jan. 15
M media, film, mime

Week 16 Jan. 18 - Jan. 19
M Projects
W course evaluation forum - section representatives

CLASSES END JAN. 19, 1971

DISCUSSION SECTIONS:

Purpose: The discussion sections in IES-101 are the main focus of the course. These discussion sections will hopefully develop into small educational communities where students and faculty participate equally in creating an open community.

We believe that students are capable of contributing to and planning their own learning experience. Since a course is aimed at students, they should determine what questions they want to ask. This does not mean that teachers have no role in the classroom. It only means that both students and faculty will need to take different roles in a new kind of educational experience. In 101, we want each section to work cooperatively to build an educational community where every participant invests into the community that which he is best able to give for the benefit of the whole. The community is the context in which each member will create his own learning experience.

How sections will be chosen: Maintaining our philosophy of student participation in 101, we have devised a system of choosing discussion sections which allows choice within the existing bureaucracy. Out of necessity students will have to choose a section at registration. In addition to having a list of section times, the students will be provided with the name of the section leaders and some biographical information about the instructors. During the first few weeks of the course, the students will have the opportunity to become acquainted with the instructors. In the third week the students can request a change in sections by turning in a request to the course assistant. If the change can be accomodated, it will be made without question.

Content of Forum on the Environment: Although process is of utmost importance in IES-101 content remains an important factor. The content of the course consists of man's social, political, cultural, and ecological environments. Each section will have to construct their own structure or non-structure around a few guidelines that have been provided.

NOTES FOR THE READING LIST FOR IES-101

FORUM ON THE ENVIRONMENT

Rationale

Because we have elected to conduct the course without a formal step by step syllabus, the arrangements surrounding the reading list become especially important so that the sections are able to have some common experience for their discussions. The reading list is designed to give maximum choice to the individual sections as to what they read in common and still permit flexibility for individual students to pursue reading of their own interest either in pursuit of such projects as they may do for the course, or solely investigating their own interests further.

This is a real dilemma. On the one hand common reading as with common experience provides a common base from which discussions and analysis can start and helps prevent class discussions from simply being sophomoric "bull sessions". On the other hand, a lock step reading list with each and every item required seems to be the guaranteed way for students to simply stop doing the reading or to make cursory passes over it to satisfy minimum course requirements. The same dilemma has another aspect and this is the conflict between coverage and interest. There is the possibility of considerable interest developing in one area of the course such that a particular section may wish to pursue it at some length and depth. At the same time, in order to provide some coverage, some idea of the opportunities, problems and aspects of the environmental difficulties, a varied selection of reading requirements, we have designed the following procedure.

Initial Required Reading

In order that students can begin reading early in the term while time is less pressing, we have required all students to buy Ehrlich and Ehrlich's Population, Resources and Environment and Kenneth Boulding's The Image. The Image should be read in toto at the beginning of the course. The Ehrlich and Ehrlich book is not a book to be read from cover to cover at one time, but students should be urged to sample it for subject matter under discussion.

Common Selected Reading by the Sections

Attached is a reading list containing 45 books in ten categories. One category are reference books. These books are placed on the reading list because they contain considerable factual material, and in some cases, essays of some importance, from which factual material can be obtained. Copies of books

from the Reference Section will be placed on reserve at the library. From the other 9 categories each section should select 4 to 6 books which the section agress they will read in common. It will be up to the instructors to explain the reasons for wishing to obtain some variety and some coverage in the reading and to urge the students to select 4 to 6 books that they will then purchase and read as a class. They can then be scheduled throughout the term in such a way that they can be drawn upon for discussion.

Additional Reading

Students should be urged to read an additional 4 or 5 books from the reading list (or possibly from other sources) to complete their reading for the course. While the reading list should provide a source of recommended books for this freely selected reading by individuals, it should not be viewed as the sole source, and many good books were left off the reading list. There are, no doubt, many others unknown to the group making up the reading list. Individual section instructors should not feel bound too rigidly by these rules, but they should bear in mind that the common reading is a strong binding force at their disposal to hold the class discussions together. Recommendations for the revision of the reading list for subsequent semesters would be gladly received.

CAMPING TRIP

We have scheduled a camping trip for the week-end of October 10 and 11. The trip is open to all participants of IES-101. While this trip is not required, everyone is urged to go. We have planned this trip to give the participants an opportunity to become acquainted with one another, and to give people an opportunity to be outdoors in one of the many existing environments. We hope to have several naturalists on the trip who will be available to share invaluable information about the natural environment to those who are interested. Detailed information about the trip will be available at a later date.

PROJECTS

The production requirements for "Forum on the Environment" have purposefully been kept to a minimum in order that the students have the opportunity to direct energies to areas of their individual interest. However, we are asking each student to participate in an independent project, either individually or with other students. There should be maintained a great flexibility in the nature of accepted project plans, from artistic endeavors to political activity or scientific research. We suggest the instructor consult with the students both in the idea and planning stages as well as in the process of the project, so that he may offer his opinions of the project's design and value to the students as well as provide suggestions of alternative directions to pursue which may be more beneficial. The student should be encouraged in particular to remain open and flexible, throughout the course of their projects, in order that they perceive unexpected developments and directions which they would benefit from investigating further. They should also be encouraged to seek contrasting perspectives and to question those they study, for their effectiveness and value to the needs of the society. They should be continually aware of seeking alternatives to "what is".

The discussion sections will have time designated for the presentation and discussion of the projects. Other students may have suggestions to offer to the project's process and may also be interested in participating in some aspect of it. It would be preferable to have time designated for discussion of the project while it is in process as well as after completion.

The lecture schedule also includes time allotment to project presentation. The sections will recommend those projects from which they believe the course participants as a whole can benefit. Students who are planning a "one shot" presentation, e.g., a mixed media show, should consult with John Steinhart for scheduling of the time.

EXAMPLES OF PROJECTS

1). Work on political campaign of any candidate on environmental issues. Report on formulation of candidate's position.

2). Voter preference analysis on environmental issues. Possibly do your own survey research and compare with public reports.

3). Study communal living among students. Possibly compare with enforced group living among the poor - or with life style among Amish near New Glarus, Wisconsin.

4). Look at migrant worker community in Madison and Beloit.

5) What are the laws (local and state, esp.) which restrict personal lives of people from activities which do not harm others. Candidates might be abortion, obscenity, sexual behavior among adults, assembly laws (rock festivals, etc.)

6) Write and produce a play, musical or whatever to illustrate solutions to environmental problems.

7). Does anyone really care about having attractive surroundings? What do people say they want for homes, schools, etc.? What do they get?

8) Sample opinions of people who live and work on the "honky tonks" highway approaches to Madison. Do they notice their environments.

9). Tape recorded study of noise pollution. Or compose a noise pollution sonata with real noise.

10). What are private industry's plans to reduce pollution.

11). Do public relations efforts distort the facts?

12). What is the total negative cost of Madison's air pollution.

13). Informal interviews with Oscar Mayer execs on their views of their "contribution" to air pollution.

14). Parking lot interviews - e.g. at Univ.- about why people drive instead of using car pools, buses, bikes.

15). Informal interviews with key figures in DNR about state efforts in area of pollution abatement-e.g. Wisconsin River problem.

16). Draw on information resources in Limnology Labs to learn about causes of Madison lake pollution, needed remedies.

17). Discussion with University Parking Committee and Planning Committees on campus traffic problems.

18). Survey of efforts by City & County to develop rapid transit.

19). Informal survey of city officials (esp. Major Dyke) and Milwaukee Road officials about alternative relocation of RR yard.

20). Informal interviews with students to learn the psychological and social consequences of dormitory/student apartment architecture.

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FIELD TRIPS

The intention of developing a community relationship in the sections was discussed earlier. One aspect of this objective is to break out of the classroom confines and bring the broader external environment into the student's learning experience. To encourage this we suggest that the students partake in at least one of the suggested field trips. They are, for the most part, opportunities for first hand observation of various aspects of their social and natural environments. Some trips are designed for individuals, and others for groups of students, and the time commitment varies from a few hours to a few weeks.

The following represent a sample of the suggestion list, which will be supplied at a later date along with detailed information.

1). Night in a police squad car.
2). Court cases and hearings, e.g. DDT, Sulphites in foods, Hg pollution, abortion test cases.
3). Aboretum with Jim Zimmerman's guides.
4). Overnight camping, e.g. Blue Mounds Park, Gov. Dodge, Wyalusing State Park.
5). Community organization and applied interest in preserving environment of Miffland, Mapland (Maple Bluff) Shoreland (Shorewood).
6). Primate Center - other University laboratories.
7). Menominee Indian Reservation - Inter-tribal council.
8). Washington D.C. or Wisconsin State Capitol - talk with representatives and senators.

PROCESS: Techniques of Building a Community in the Discussion Sections.

IES-101 is being given for two reasons: 1) To make information about man's environmental problems available to the participants so that they will be better able to ask the questions which must be answered and 2) to provide an educational experiment in which students and faculty take an active role in creating a context in which genuine learning can take place.

This process will probably not just happen; students and faculty must make it happen. Since there are many conventional barriers that prevent such a community from developing faculty may have to take the initiative in facilitating the development of this community.

Following are some suggestions which may be useful in facilitating the development of a working community of open discussion and idea exchange among all members - teachers and students alike.

SOME NOTES ON TEACHING TECHNIQUES FOR SECTION MEETINGS OF IES-101 FORUM ON THE ENVIRONMENT

Dialogue Method

This is a method that may be used to stimulate discussion and eventually to move students into discussion leader roles without demanding of them that they be instantly comfortable in front of a class. It is best started with the instructor and the student facilitator conducting a dialogue on a particular discussion area. The discussion is rapidly opened to the class. The two person leadership of the discussion avoids the preemptive role that the instructor may have to assume if leading the discussion alone. In subsequent sessions students from the class may be scheduled to replace either the instructor or the facilitator and eventually both, so that student pairs can lead the discussion and conduct the dialogue on their own account. One of the principle advantages of this technique is that no single student is asked to be fully responsible for the discussion. For those students who feel somewhat uncomfortable in front of a class there is another specific person identified with the responsibility to keep the discussion going besides himself. This frequently is sufficient to make the student feel more comfortable leading discussions.

The Inquiry Method

In a recent book Teaching as a Subversive Activity, much is made of the inquiry method of conducting classes. Translated into sections for IES-101 the useful part of their discussion would suggest that formulation of the question or a series of questions might be a good way to focus the discussion on a particular topic. Very often the development of such discussion goes in the direction of looking for fundamental assumptions and in the end yields many more questions that the original one. This method can be very useful in proceeding from what may be a symptom (as many pollution problems are) to some of the foundamental causes and/or assumptions which underlie the symptoms. It is difficult to formulate good questions, yet formulating the right questions is more important than any attempts to answer unstated and frequent wrong questions. It should not be disturbing if a considerable portion of the discussion revolves around how to ask the right question.

Class Subdivision

A technique frequently of use, although seldom used in the University, when a discussion seems to be getting nowhere, is to divide the class into a number of sub-groups which huddle privately with some fixed time limit, (half an hour, forty-five minutes or whatever) and return with a spokesman from each group to discuss the formulation of the question, the proposed solution, or whatever purpose was outlined at the

beginning of the subdivision of the class. A lively debate often ensues about the relative merits of the proposed solutions by various groups or about the way in which they approach the question.

Assuming the Role of Teacher

There are times when the discussions will no doubt be going around in circles or seem to be obviously lacking in underlying information. At times the best way to deal with this problem is to openly inquire of the class whether they would permit you to assume a teaching role in a very traditional sense and lecture for a fixed period for 20 or 30 minutes in an effort to provide some exposition of the facts and ideas underlying the problem which have not been in evidence in the discussion. Most students respond favorably to a frank assumption of a teaching role and a frank expectation that you will lecture for a longer or shorter period of time. Most students will at the same time feel very much put-off by an attempt to lecture while the class is nominally engaged in an open discussion. It is an easy thing to drift into lecturing while presumably participating in a discussion. What is suggested here is simply a recognition of those times when assumption of a teacher or a lecturer appears appropriate to the circumstances, and to try and set a time limit on how long you will remain in this role presenting material. If possible, it is desirable to leave some discussion time before the end of the class session so that some reaction to the material presented is possible before the class breaks up.

Non-verbal Communication

Non-verbal communication is another technique for building community. Why non-verbal communication? It is another common base of experience that participants in 101 can share with one another. Much of non-verbal communication involves physical touch, and sharing of personal feelings whether those feelings consist of anger, fear, tension, anxiety, silliness, joy, or love. One of the goals of non-verbal communication is to eventually develop a sensitivity to and understanding of one another. This kind of communication is intended to be a tool to be used to break down barriers that inhibit other forms of communication.

Another very important goal of non-verbal communication is to give the participants practice and training in how to pick up and use other people's non-verbal clues. When people are aware and sensitive to both verbal and non-verbal cues, total communication is more likely to occur.

The combination of common experiences, and sensitivity to one another that can be achieved through non-verbal exercise helps create a common bond among people which can facilitate building community.

How to Use Non-verbal Communication

We have collected a series of exercises that can be used in the individual discussion sections. The following exercises are basically non-threatening. However, it is important that following each exercise the participants must have an opportunity to process and express what they felt was happening and how they felt before, during and after the exercise. Before presenting the non-verbal exercise, the instructors should experience them first hand. In addition, student facilitators will be available to help the instructors.

EXAMPLES OF NON-VERBAL EXERCISES

1) One helpful exercise is to divide your class into two groups, and have the members of these groups sit in a circle playing with a mythical object. Manipulating the air as if an object were there, members of the circle pull, stretch, bounce and work the make-believe object. During the exercise, there should be no talking. The strange things made by the use of the hands will certainly elicit some laughter, will relieve tension, will aid in developing non-verbal skills, and will help members of the class meet one another.

2) There are a variety of exercises dealing with the concept of community. A relatively simple one is to divide the whole group into three smaller groups, and give each small group a pile of paper, a roll of scotch tape, and a box of paper clips, and tell each group to build the tallest, yet strongest structure they can in 10-15 minutes. The exercise is to be done non-verbally.

Usually the structure will be built, but not the best structure imaginable. The smaller groups will probably not work together as a community, but members will work independently adding to the edifice. After the exercise the class should come together and discuss what has happened, why they did not work together as a community, and what the pre-requisites are for a community.

3) A fun way to introduce class members to one another is for everyone to participate in a mirroring exercise. Members of the class move around the room, from person to person, in an exercise in which members follow the hands of a partner. The pair

will non-verbally decide to break apart, and find a new partner. The exercise aids in helping members of the class see who the class leaders are, and serves as one more common experience. The exercise is like following your own hands on a mirror, but instead of a mirror, a partner's hands are used.

4) We have created a room in which class members can experience a variety of man's environments while interacting with their fellow class members. In our room of mini-environments class members will randomly move from experience to experience until they have stopped at all stations. The stations will include such things as a rag stained with grit, oil and gas, a variety of natural plants, and synthetic imitations of nature, to be experienced with as many senses as possible.

5) Because so much class time in 101 will be spent in a single section room, it is important to become aware of that environment. There is a way to do this. Break down into couples, with one member of the couple blindfolded. The other member takes his partner on a sensory tour of the room environment experiences its textures, smells, temperatures, etc. The members of the section are also a part of the environment, and it may be very satisfying to explore those other people. After the tour is over, the partners change places. Unlike the other exercises, this is a verbal one.

6) After a few exercises, undoubtedly some people will feel "uptight". The following exercise is usually fun and relaxing and will serve to release tension. In a sitting position, form a circle and hold hands. Sit in the circle for a few minutes looking around at one another. You or the student facilitator should then stand up and while still holding hands, move in a snake like fashion, over and under the clasped hands of other members of the group. Continue moving in this "london-bridge" type motion until people feel relaxed, then drop hands.

IF THE CAMPUS IS DISRUPTED

What are the possibilities of a disruptive semester? It already seems as if disruption could occur - among other things, plans are well formulated to open the 1970-71 academic year at the University of Wisconsin on strike to free the Milwaukee Three.

We feel it is necessary to consider the consequences of disruption because, from past experience, we know that during these times, the University community is in a state of chaos. Many faculty and students are not thinking about what is taking place in the classroom, but what is happening in the streets.

This statement is no way an attempt to dictate to students and faculty in 101 what do do in the event of disruption. That is a purely individual decision.

However, we do feel if disruptions do in fact occur, Forum on the Environment can be a useful opportunity for participants in 101 to deal with the environment of the University of Wisconsin - Madison campus.

Students should telephone 262-1585 or 233-3111 to check for schedule modifications of lectures. Because of the chaos, it might be helpful, if students and faculty agree to hold classes in the evening, away from campus, preferably at the instructor's home.

Instructors should provide students with a point of content for information about section meetings if disruption occurs. This suggestion provides a place for people to escape to in order to release the emotional tensions that build in response to the confrontations and demonstrations, work out conflicts within individuals, to analyze and comprehend what is taking place in the university community, exchange ideas about the issues, and rationally deal with the environment of the University of Wisconsin - madison community.

FILMS

RAISON D'ETRE: The medium of films, when properly utilized and integrated into the total educational process can provide stimulating and contemporary educational experiences possible through no other method. Resource information and ideas on which to build discussions are transmitted to the viewers in an enjoyable and usually painless manner, although the ultimate effect of the presentation may be quite intense.

QUALITY: Of course, the effect of a film is dependent primarily upon its relevance and quality of presentation. The films to be used in 101 have been reviewed by students and instructors from the Summer Curriculum Community. We feel that the ones selected for use in the course and the film bibliography are of the highest quality and interest. Included are a wide variety of topics and formats.

PRESENTATIONS: At least two and possibly four lecture periods have been set aside for film programs. In addition to these, instructors are encouraged to use films in their small groups relevant to their needs. A number of evening "film festivals" are also to be incorporated into the course, tentatively in Mills Auditorium.

THE GENERAL COURSE ASSISTANT

Primarily to assist with the presentation of multi-media and films and to assist with arrangements in field trips a general course assistant will be employed for IES-101. His position is a 1/4 time position and will be filled in the fall term 1970 by Marc Kaufman. During the first term the course assistant will be responsible to the faculty member in charge of the course (Steinhart). It is expected that a considerable portion of his available time will be used in preparing multi-media shows and updating them to be as current as possible when presented and to order, process, and make arrangements for the showing of film festivals. In addition, he will assist in arrangements for lectures and other lecture hour substitutes.

The general course assistant will act as a focus for information about field trips and will be available to assist instructors in planning field trips for their individual sections and in making arrangements for the details of such field trips. Instructors are urged to consult with the general course assistant about field trips and their problems as well as about films that they may wish to show in their individual sections.

The course assistant may have some time to assist students with their bureacratic difficulties associated with projects, credit, course changes, section changes, etc. To the extent possible, section instructors should advise their students on these matters but the student should also feel free to consult the general course assistant. The general course assistant will be regarded as one of the instructional group and will be welcome to attend all the instructors meetings to keep abreast of problems and find ways on his own account to offer assistance to students and instructors.

Because this course is a new one and the position not completely defined, it is incumbent on all instructors to ascertain that the general course assistant is not merely overloaded with details that no one wishes to deal with. His first responsibility should be to the lecture time media shows and film festivals as well as keeping the field trip information. Course assistant's office number and office address will be circulated later.

ROLE OF STUDENT FACILITATORS

The members of the summer task force planning IES-101 felt they had invested a great deal of themselves in planning the course and want to participate in Forum on the Environment. We felt that these students could be most useful to the community of 101 in the role of student facilitators.

Student facilitators might be most useful in the sections performing the following tasks:

a. help with the organization of discussion materials.

b. facilitate discussion.

c. help with student evaluation.

d. coordinate the evaluation of Forum on the Environment by seeking data from the instructor, the students, and his own perspective of designing 101.

e. facilitate achieving the designated goals of 101.

f. facilitate breaking down barriers between student and faculty by having the working relationships between the student facilitator and instructor serve as a model.

g. serve as an experiment in student participation, which, if successful, can be extended to the idea of students as teachers.

FACULTY MEETINGS:

Weekly meetings among instructors and possibly student facilitators have been planned, at least in the beginning of the semester. The reasons for these meetings are:

1. to have frequent and open communication between faculty members.

2. to use the group of instructors to help one another put into practice the philosophy and goals of 101, and

3. to use the group to develop parts of the course, and make changes in formulated plans as the semester progresses since there is very little binding structure to 101.

While we encourage individual instructors to be innovative in their approach to their sections, we ask that any substantial departure from the format presented here be discussed in advance at a faculty meeting. In this way, we hope to prevent activities which conflict with the goals of the course, or of other sections.

EVALUATION

Evaluation is perhaps the most important element of a course, for at least two reasons. First, it is the criteria and nature of evaluative devices which determine what formal work a student does during the course, since these devices set the standards he must meet. Second, evaluation, in whatever form, is a basic means by which others communicate their estimation of a student's idea, abilities, and perhaps even of himself. We believe that evaluation in 101 must reflect and orient all of its participants toward the goals of the course. Thus, it is essential that evaluation be individualized in process, as opposed to standardized (e.g., objective tests); and that it be personalized in orientation, in terms of the individual student rather than "students" in general.

We ask that evaluation of the kinds to be described here occur at two points in the term, during the sixth week and at the end of the course. Individual sections or instructors may choose to use additional types of evaluative procedures, or to include additional evaluation periods in their semester's work; we ask that any such additions be discussed in advance with the course staff.

Six-Week Evaluation

It is both necessary and desirable to evaluate all students in the course during the sixth week. It is necessary because we have to submit a "six week grade" for all Freshmen in the course. More importantly, it is desirable because it will provide mutual feedback for instructor and students, which can serve as a basis for making the course more meaningful for all involved.

There are two elements to the evaluation, as we envision it. The first is an evaluation of where each student stands at that point. Each instructor should schedule individual meetings with each of his students, during which they will discuss the student's work to that point, strengths and weaknesses, etc. To facilitate this feedback, each student will be encouraged to write a brief statement of what he has done up to that time, and what he has gotten from that work; however, students who prefer can simply communicate this information in person at the beginning of the interview. In addition, during the fifth or sixth week, everyone will be given an in-class "quiz"; this will not be graded, but is given rather

to familiarize students with the kinds of questions we are interested in, and to give them an opportunity to organize what they have learned. Instructors and students can discuss this"quiz" and any other mutual experiences during the interview. The intent is to: 1) provide each student with the instructor's assessment of his involvement in the course; and 2) to identify those students who are having serious difficulty with the course. The latter is especially important in view of the relatively unstructured nature of this course. We ask everyone to take these interviews seriously, and to thereby make them mutually valuable. By mutual agreement, the instructor and individual students may wish to include other members of the section in these interviews, who would bring their perspective to an evaluation of the student's work.

The other element of evaluation is for each section to evaluate itself as a group. We ask that at least one hour be spent during the sixth or seventh week evaluating the section as a learning experience. Among the questions which could be considered are:

a) is there open exchange of ideas? If not, are particular people in the group inhibiting such exchange?

b) is the discussion material relevant and meaningful, or do discussions tend to ramble, to focus on trivia? If the latter, what can the group to to make discussions more meaningful? Information in the section on Teaching Techniques might prove useful in attempting to solve problems in this area.

c) are people <u>listening</u> to each other, or are discussions an isolated series of comments? Information in the section on Non-verbal Communication might be very valuable in solving problems in this area.

FINAL EVALUATION

At the end of the course, we will again evaluate each student, and also get an evaluation of the course by the students. One of the issues to be decided during the semester is the form and process of course evaluation to be employed. This section focuses on the evaluation of each student.

The final evaluation is particularly important for the student because it is potentially of considerable value in communicating the overall worth of his intellectual and personal accomplishments relative to the course. Again, this evaluation should be individualized and personal, in keeping with our course objectives. In addition, we hope that each section will have developed some sense of community during the term, and we therefore believe the avaluation process should include

feedback from all elements of that community. This in no way denies the important role played by the section instructor; by virtue of his expertise and experience his perspective is, of course, unique. However, other students are also a valuable source of information, precisely because they share a more similar perspective. Finally, there is a realistic constraint on the final evaluation; since we did not have time to petition the Committee on Grading for an exception, we must supply letter grades for all students in the course at the end of the term.

A variety of information will be available to draw on for this evaluation.

1) Project - As indicated above, each student, working individually or in a small group, will complete a "project" of some sort during the semester. Two aspects of this work may be considered in the evaluation. One is the product - its content, form, overall quality - whether a paper, a film, an experiment or some other communicative device. Equally important is the process by which the product was produced, the approach, thought process involved, what was learned, and how the process effected the student personally.

2) Class participation - Two aspects of each student's participation are relevant to this final evaluation. One is the extent to which he indicates understanding of course related material and can manipulate the concepts and ideas in meaningful and creative ways. The second is the extent to which he facilitates and contributes to the process of discussion and relationships in the classroom.

3) Section activities - Information will also be available concerning each student's participation in and contribution to class activities, whether written assignments, class field trips, or other special activities undertaken in or by each section.

4) "Informal" information - Both instructor and students will have various information about members of the section derived from informal contact with them. Not all of this information is relevant to the evaluation process; only material relevant to the person's intellectual and course activities should be considered.

Thus, the final evaluation process should be: 1) comprehensive in the sense of drawing on as much relevant information as possible, and 2) student-centered, allowing him to play a major role in his own evaluation, and finally 3) community-based, drawing on all members' contributions. Any process which meets these criteria is acceptable. The following process seems highly desirable: it not only meets these criteria, but also does not require inordinate amounts of time to complete.

The first phase consists of an in-class evaluation in which every member-- students, instructor and student facilitator participates.

1. The person to be evaluated will make a brief statement (3-5 minutes) about himself, indicating the criteria on which he wishes to be evaluated, his assessment of his achievements on these criteria, and any general statement he cares to make about the impact of the course on his approach to the environment, problem-solving techniques, etc.

2. He will then designate some other member to evaluate him in terms of the original criteria, the second person drawing on whatever information he has. The second person may have been asked in advance to be prepared and may or may not be the instructor.

3. A third person will be chosen randomly, and will spontaneously make any additional contribution he feels is important.

4. The student then responds briefly to these evaluations of him. Finally he assigns himself a final grade, publicly acknowledging what has been stated during the evaluation and what he feels he deserves as a grade for his work in the course.

5. If any member objects to what has been said, or to the grade that is chosen he is given an opportunity to express his reservations and feelings, and the group discusses this until the issue is resolved.

We expect each evaluation to take ten to fifteen minutes to complete. Thus, using this process, it would take about four hours to evaluate every member of the section. We suggest that the class periods following Christmas vacation be employed for evaluation if this or a similar process is selected.

The second part would consist of a private conference between instructor, student, and the student facilitator if desired. This part is not essential, but might provide an opportunity for more personal and detailed feedback between student and instructor. Since the issue of a final grade will have been resolved earlier, the student and instructor may be more willing to give and receive honest feedback.

COMMUNICATIONS CENTER

The focus of the interaction of the experimental summer group responsible for designing "Forum on the Environment", was an old university building (commonly referred to as the "shell"). This structure became the focal point of hard work, intense and exhilerating discussion, laughter, and joking, and individual reflection to music. Although the environment of the Shell was primarily a spontaneous natural development, it was in part premeditated. We felt that it was necessary in order for optimal flow of open and creative communication to have a flexible and diverse environment. The majority of University facilities, e.g., the lecture halls, would have not only inhibited, but would probably have absolutely prevented this from developing.

We propose that a center of the "Shell" nature be maintained permanently and suggest various mechanisms for facilitating development, on a much broader scale, the desirable relations between faculty and students of the Environmental Studies Community. Call it what you will, the IES Communications Center can become the focal point of student activity, whether in a continuing program of course evaluation and subsequent feedback, as a locus for faculty to seek out student assistance in work on their speci ic individual courses, for the development and design of student initiated courses, or even for verbal communications among community members, of personal problems, perspectives of 101, Institute or University community developments and so on.

Beyond requesting support for the idea and assistance in actualizing it, we suggest that the section instructors designate as their "office hours" specific times when they will be available at the center. Thus students will be encouraged to introduce themselves, as will the instructors. If students from your specific sections do not require the time, you will be able to meet students from the broader community. We believe very seriously that education and learning are functions of much greater scope than the classroom. We plan to encourage the students of 101 to become aware of the constant education available beyond the classroom walls. We hope they will become aware of their and the community's internal environments and learn from the experiences.

The essence of our request is that all individuals, students and instructors alike, involved with "Forum on the Environment" commit themselves to persoual change. The format of 101 presents unlimited opportunity for all involved to experiment with themselves and to learn and subsequently change from the experience. If each individual opens themselves to even slight change, the accomplishment will be great.

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IES 101

Forum on the Environment

Lectures/Non-Lectures

(Schedule subject to change watch for announcements)

Week 1 Sept. 21 - Sept. 25
M Section adjustments
W Multi-media show / Introduction to 101

Week 2 Sept. 28 - Oct. 2
M Instructors-man-on-raft

Week 3 Oct. 5 - Oct. 9
M Films
F Film Festival, Friday evening 7:00 PM/film festival room to be announced.

Oct. 10,11 camping trip - Wyalusing

Week 4 Oct. 12 - Oct. 16
open

Week 5 Oct. 19 - Oct. 23 John Steinhart, Santa Barbara oil spill
Week 6 Oct. 26 - Oct. 30

Week 7 Nov. 2 - Nov. 6
M Films
F Film Festival, Friday evening 7:00 PM/film festival room to be announced.

Week 8 Nov. 9 - Nov. 13 Orie Loucks, DDT/MWM
Week 9 Nov. 16 - Nov. 21

Week 10 Nov. 23 - Nov. 25
M Debate - Radical, Conservative, non-ecologists

THANKSGIVING VACATION - Nov. 26,27,28,29

Week 11 Nov. 30 - Dec. 4
W Multi-media and/or mime

Week 12 Dec. 7 - Dec. 11 Reid Bryson, Global Climate Modification MWM

Week 13 Dec. 14 - Dec. 18

CHRISTMAS VACATION - Dec. 20 - Jan. 3

Week 14 Jan. 4 - Jan. 8
M & W Projects

Week 15 Jan. 11 - Jan. 15
M media, film, mime

Week 16 Jan 18 - Jan. 19
M course evaluation forum - section representatives

Classes end Jan. 19, 1971

A Personal Statement of Evaluation

Concerning the

Summer Curriculum Community:

A Student-Faculty Task Force

BY: Barbara Olson, member.

Introduction.

I would like to begin by stating my particular group status and personal perspective. I am one of the two incoming Freshmen. As a student I am especially concerned that I have a voice in this final evaluation, since it may well have an effect upon the nature and extent of similar educational involvement by my fellow students. I am also one of the "critics" in the summer task force. My remarks will therefore deal more with our problems than our triumphs. I wish to strongly emphasize, however, that in my opinion the net results of this experiment were excellent and encouraging. I would be extremely upset if our efforts were labeled a "failure" by O.E. and similar opportunities denied to other students and faculty. I feel that this is only the first step in a long-delayed and urgently needed type of educational change.

Major Activities and Accomplishments: Tangible Products.

(1) Forum on the Environment (I.E.S. 101) -- the introductory course.

(2) An I.E.S. Curriculum proposal -- includes original objective of "educational opportunities beyond 101" to an extent.

(3) A chapter on Educational Philosophy.

Forum on the Environment. I am presently enrolled in this course and am serving as a "student facilitator" (see handbook) in my section. I am encouraged by the progress of the course, although I feel it definately has some difficult problems. These, however, seem to stem from inexperience of all involved more than anything else, and will be worked out to a greater or lesser degree as time goes on. At this point it is really too early to make a meaningful evaluation of I.E.S. 101.

I.E.S. Curriculum Proposal. As a member of the Task Force's curriculum committee throughout much of the summer, I am especially concerned with the outcome of this proposal. It is important to note here that the proposal in its present form is a compound of ideas from the summer group, which did not ever put together an entire, consistent curriculum. I personally feel that more time was needed on this task, and am somewhat apprehensive about the present proposal. My main concern is not that the curriculum is not "perfect" or even "good". Rather, I am afraid that our most important ideas (i.e., the absolute necessity of effective and creative mechanisms for constant evaluation of I.E.S., and involvement by students and faculty in the decision-making processes which will effect such changes as are necessary) will be sacrificed to political expediency. Already we are presenting an emasculated version of our real conclusions, relying upon thinly-disguised "loop-holes" for future changes. This is largely because of antagonisms and resentments toward the introductory course on the part of the University "establishment" which are in turn being focused upon the curriculum proposal. I find this whole situation disgusting and am becoming increasingly pessimistic about the chances of ever instituting a curriculum such as ours, or even a course such as 101, within the University structure. (This is probably an old story to you people, but I think you should give very careful consideration to exactly what this does to your chances of changing the system by having people plan innovative curriculums. There seems to be no place to put such curriculums.)

Chapter on Educational Philosophy. Although the writing of the chapter may have had the value of helping us "get it all together" as far as our ideas on educational innovation, I consider it to have been basically a waste of valuable time. This is because it was

never published (something we could have done quite easily when we decided to write it), and because time became of greater importance toward the end of the summer. I feel that we have moved ahead our progress in other ways, which I intend to discuss later.

Major Activities and Accomplishments: Intangible Results.

With the exception of the "constant evaluation" ideas and mechanisms embodied in the original curriculum suggestions, I feel that the non-product, intangible results of the summer are the most important. This is because our philosophy and certainly our proposal is concerned less with the "content" per se of an environmental education than with the "process" one goes through to get such content. We were experimenting with one type of process--working within a closely-knit and formally unstructured group of widely diverse people to affect change. In other words, "the medium is the message".

I feel there are at least four intangible results of significance. They are:

(1) Group Experience.

(2) Student-Faculty and Student-Student cooperation.

(3) Personal knowledge of topics in Educational Innovation.

(4) Introduction to "university politics" and structures.

Group Experience. This refers to the variety of feelings, thoughts, and emotions we all felt as a result of living and working within a group context. Love, joy, anger, pain, anxiety, security; all of these cannot be downplayed because they were an integral part of our work experience. It cannot be said that these interpersonal relationships filled us with enthusiasm and "beautiful feelings" 100% of the time and thereby made work easier, although this was often the case. What can be said with certainty is that "work", because of its intensity and the high degree of group commitment, became some-

thing to be lived rather than just a task to be finished and forgotten as soon as possible. We found ourselves dealing with people instead of things, an occurance which has at least one very important implication for the administration of the present introductory course. We now have the potential to deal with the many interpersonal problems within the staff group, without resorting to a rigid authority structure which in effect denies the existence of such problems. This is in obvious contrast to traditional departments and other educational heirarchies, whose members seem to spend much of their time in petty quarreling spawned by competition, jealousies, and arbitrary authority

It should be stressed that this "group experience" is not a panacea; it cannot guarantee "success". (There are possibly even tasks which would be completed better without it. I do not think, however, that curriculum planning is one of them.) But if we are ever to create a viable system of education, we must begin to deal with people as people, and not as stereotyped products ("doctor", "lawyer", "student", "teacher") as we are accustomed to do. It is especially important that those educational planners who make decisions which affect the lives of hundreds of other people at least attempt to reflect this quality in themselves.

This brings me to the second intangible result: an adventure into the problem of student-faculty and student-student cooperation, one of the "burning" issues of our time. During the course of the summer, we succeeded to a great extent in stepping out of our respective stereotypes and began to appreciate each other as human beings. This was very largely a result of the initial T-Group experience. Again, however, we did not reach Nirvana. One thing I have discovered is that there are in fact significant differences between students and faculty, and between younger and older students.

education. I now have a much more clear-cut conception of what education should be, as well as a greater appreciation of the complex problems involved in educational change. I think the group as a whole now has many of the tools it needs for creating a context in which other people can create their own context for learning.

This does not necessarily mean that we are ready to "work within the system". Rather, for many of us, the prospects of reform seem even more remote. Now that we essentially know what we want, we also are aware of how and why we are prevented from getting it.

This latter problem is partially what is meant by the fourth result: an insight into the complexities of "University politics". Throughout the summer we had contact through several of our members with the various persons, committees, offices, advisory boards, and rules that made up the bureaucracy into which I.E.U. was to be incorporated. The results were far from encouraging; indeed, we couldn't decide if we should ignore these hassles, and continue working on our curriculum, or take the time to punch the bureaucratic sponge. The treatment accorded to 101 as it attempts to inch its way up the Divisional ladder to accreditation is even more instructive in this respect.

This issue was in large part responsible for our failure to come up with a complete curriculum; it continually ate up valuable time. Every meeting became a battle report; every committee session a strategy planning period, or an argument over whether to plan strategy or curriculum. We finally "solved" this problem by deciding to plan a curriculum with specific "loopholes" designed for

particular purposes; but by then it was too late and we had neither curriculum or strategy. The same problem currently threatens 101; we have enough problems without having to worry about what the bureaucracy expects from us. All our energy is used up in figuring out ways to get around these roadblocks without compromising the essential aspects of the course, an increasingly difficult task. It is virtually impossible to solve our course problems and meet the needs of the students with the little time that we have left over.

Problems.

One of our most irritating, if not most important problems, has just been discussed. This external pressure certainly aggravated, and continues to aggravate, all of our other problems. Indeed, it is interesting to speculate upon where we might have been if we had not had to contend with this particular "reality check". But the existence of other, equally serious problems cannot be denied. What follows is an attempt to analyze what I feel to be the initial causes of these problems, and trace them through to some of their results and examine the continuing nature of several of them.

There were at least two strikes against us from the beginning: the large size of the group (14 plus various others who donated their time and interest to our effort) and the diverse membership of the group. Of course, these were also some of what we considered to be our essential qualities; we desired a wide variety of view points in order to create a richer and more diverse curriculum, and a large number of people was necessary to achieve this goal. Let me stress that such size and diversity do not necessarily cause problems; they simply make their solutions infinitely more difficult. And of course, it must not be forgotten that these two elements were responsible for the richness of our group experience.

Several problems arose as apparent results of failures in the original T-Group. First, there was a definate lack of exercises and discussions designed to develop decision-making structures for the group. There was a pronounced rejection of traditional autocratic authority, and authority by virtue of externally-established status, but nothing was generated to fill the gap. Second, the only exercise in dealing with conflict was a complete failure. Its only results were to make us fear and avoid conflict, confuse emotional with intellectual confrontation, and become extremely upset lest it destroy our personal relationships whenever conflict did occur.

These two factors, combined with the gradual discovery of a large number of basic disagreements among various individuals and sub-groups, contributed to a severe inability to make necessary decisions, such as the establishment of a definate system of priorities. Whenever we got down to a gut issue over which there was disagreement, such as the relative importance of the "task" vs. "interpersonal issues", we would become frightened of the impending conflict and either ignore the issue entirely or throw together a compromise ("we can't complete the task without good inter-personal relationships") which may have been true but was in effect another avoidance mechanism.

In our search for authority, we fluctuated between absolute consensus of all present to a semi-satirical "dictator" procedure, and finally settled on largely autonomous sub-groups. This final structure, although in my opinion an improvement, was never satisfactory either, although by that time other problems were so great that probably no structure could have pleased even a simple majority.

We were, or course, also unable to decide as a group which of our various tasks were the most important, and allocate manpower accord-

ingly. As a result people were working on tasks that they or others disapproved of, and as time became ever more critical, this led to frustration, bitterness, and critical feelings toward others.

The situation was further complicated when various group members began in exasperation to refer to "previous decisions and agreements", such as the philosophy expressed in the Chapter and the objectives enumerated in the O.E. proposal, as being binding on the group. This latter became only one of many "external obligations" over which there was significant disagreement.

Failure to follow up on the T-Group by scheduling periodic evaluations with a trainer both aggravated existing problems and created new interpersonal ones which in turn further complicated all other problems. I have since discussed some aspects of these problems with one of our trainers, and I am convinced that his observations could have helped us a great deal. Such sessions should have been agreed to and scheduled at the very beginning of the summer; suggestions that we have "little T-Groups" were often made, but they too fell victim to indecision and lack of time.

The final crisis was precipitated by the failure of the curriculum committee to render up a finished product, because of what we perceived as irresolvable conflicts, both within the curriculum itself, and between group goals and group methods. Because of the time factor, this virtually nullified the chances of generating a complete curriculum proposal, and threatened to interfere with the other remaining task--I.E.S. 101. As a result the split between those who placed "task" above "group process" and vice-versa was crystalized and most of the other problems came to a head. A proposal was generated by four members of the curriculum committee which met with considerable hostility; because of the criticisms the proposal was based on, three of the four (myself included) be-

came known as "the conspiracy" and an incredible number of bad feelings were exchanged.

At this point there was a sincere effort made to tackle some of these problems, and although they were never resolved, the crisis was eased to a certain extent. However, these efforts were largely abandoned as the end of the summer necessitated the physical departure, in two cases permanent, of various group members. After putting the finishing touches on 101 and tying together the loose ends of the curriculum ideas, the group disintegrated for all practical purposes.

Upon reflection, I can only say that I am amazed at how much we managed to accomplish under these difficult circumstances. We wrote a Chapter on environmental education; we put together what I regard as an excellent and promising course; we came up with what are actually some really decent ideas for a curriculum. And we did all this while experiencing about 10 years of emotional and intellectual upheaval in a three month period. I can only attribute this to an amazing tenacity and depth of commitment forged in the initial T-Group, some of which survives even to this day.

Of course, most of the major problems continue also, and are reflected in the administration of I.E.S. 101. Of the staff (consisting of 15 instructors and facilitators), 12 were "inner core" or "outer circle" members of the summer group, and the various warring subgroups are represented. There is a great deal of disagreement over what should be the philosophy of the course, what methods should be used, and how much emphasis should be placed on "content" and how much on "process" of the course. Another significant argument concerns how much we should yeild to "the establishment" in order to preserve the course within the university. There is a continuous conflict over who or what decision-making process is to provide authority within 101, and a myriad of related problems.

In addition, the interpersonal relationships have undergone little change since the end of the summer, except to apparently worsen in some cases. This is beginning to severely interfere with functioning of the group, since personal problems often become inextricably meshed with philosophical and practical questions. The group, in effect, has undergone an irreversible transformation, with sub-groups of the original being contained within a new group: the "staff". The new group meets only once a week and has a much less intense level of interaction. This level, however, is still much higher than that usually found among a group of co-workers, and in my opinion still enables us to deal with our many complex problems. Whether or not we do so remains to be proven in the next two or three weeks, when we attempt to evaluate the progress of the course and make recommendations for second semester.